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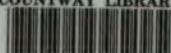
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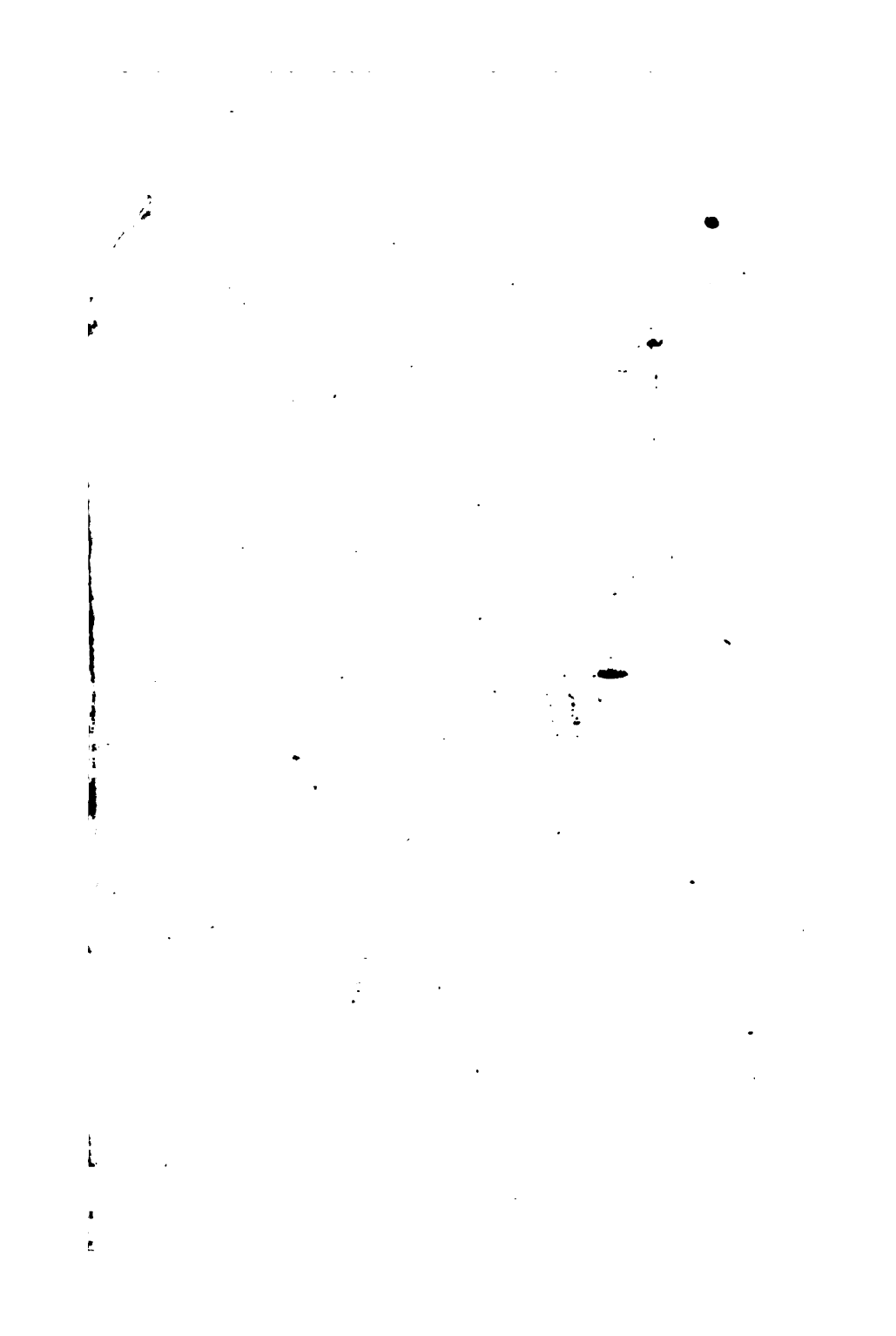
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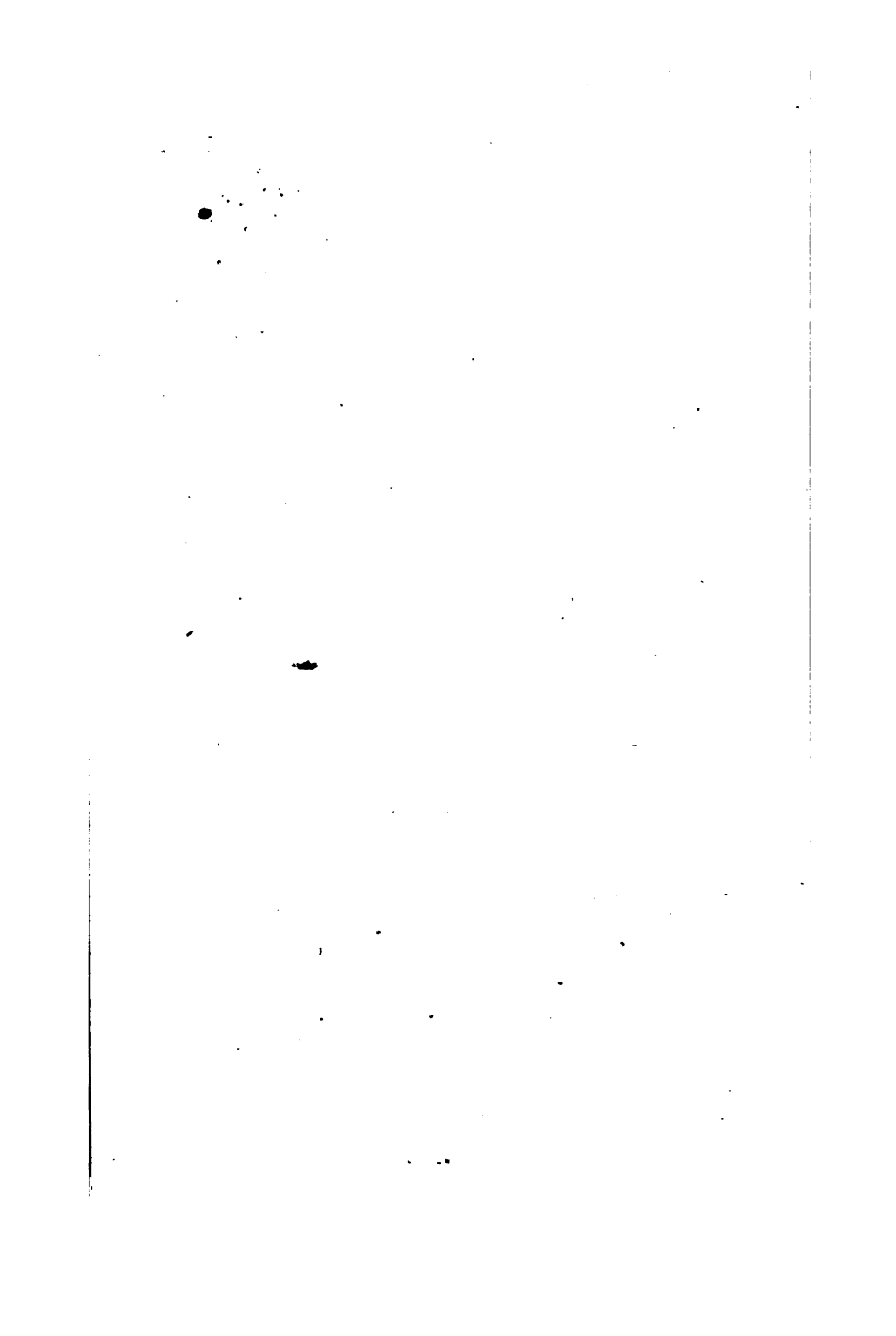


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A
THERAPEUTICAL ARRANGEMENT
OF THE
MATERIA MEDICA,
OR THE MATERIA MEDICA ARRANGED UPON
PHYSIOLOGICAL PRINCIPLES,
AND IN THE ORDER OF THE
GENERAL PRACTICAL VALUE
WHICH REMEDIAL AGENTS HOLD
UNDER THEIR SEVERAL DENOMINATIONS,
AND IN CONFORMITY WITH THE PHYSIOLOGICAL DOCTRINES SET
FORTH IN THE
MEDICAL AND PHYSIOLOGICAL COMMENTARIES,
BY
MARTYN PAINE, M.D., A.M.,
AUTHOR OF THE COMMENTARIES, AND OF THE LETTERS ON THE CHOLERA
ASPHYXIA OF NEW YORK, AND PROFESSOR OF THE INSTITUTES OF
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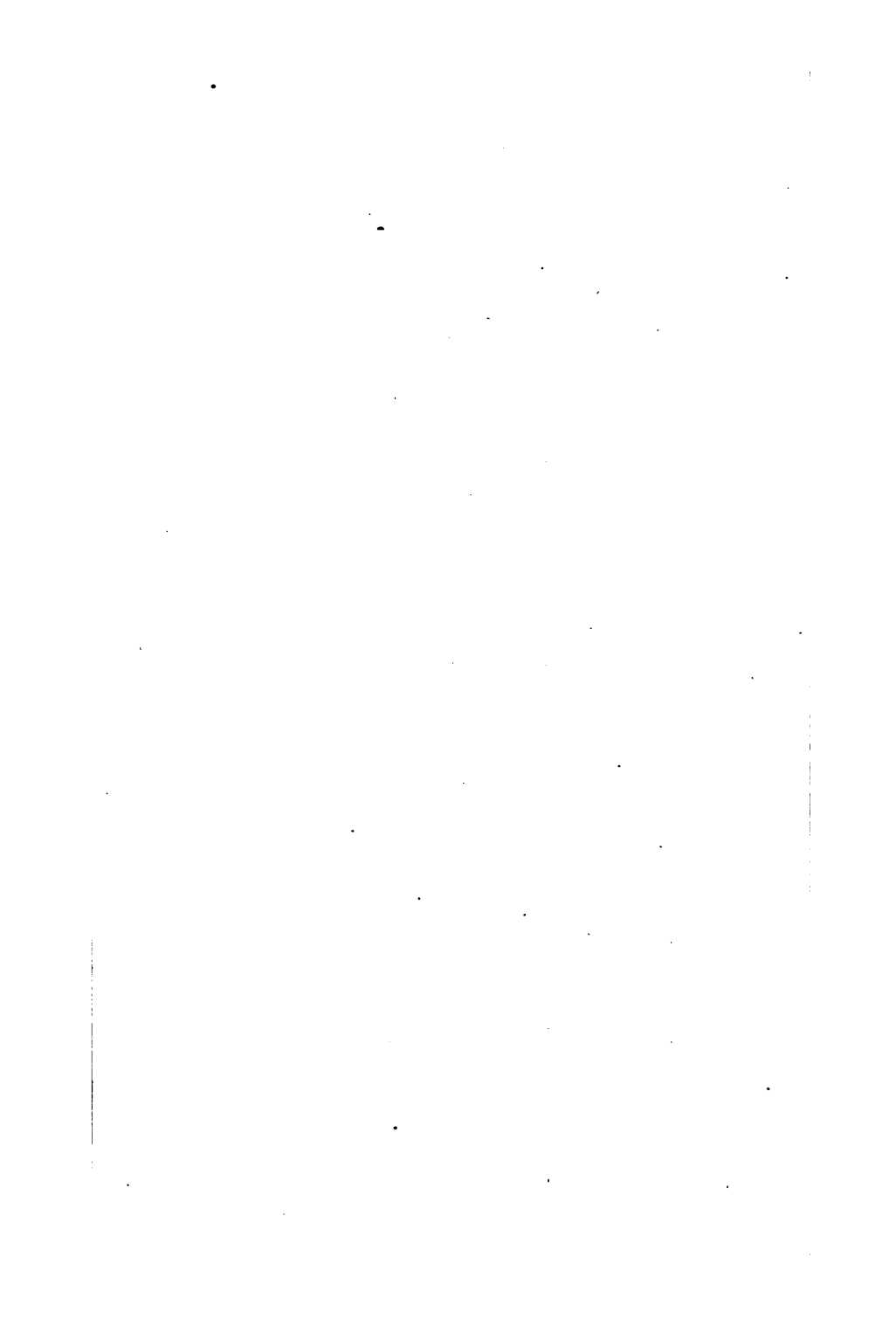
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THIS WORK
IS MOST RESPECTFULLY DEDICATED TO
CHARLES CALDWELL, M.D.,
THE DISTINGUISHED AND SUCCESSFUL ADVOCATE
OF
MEDICAL PHILOSOPHY,
THE ABLE AND ELOQUENT PROFESSOR
OF THE INSTITUTES OF
MEDICINE AND MEDICAL JURISPRUDENCE,
IN THE
LOUISVILLE MEDICAL INSTITUTE,
BY HIS MOST HUMBLE SERVANT,
THE AUTHOR.



P R E F A C E .

THIS work has been rather hastily prepared; indeed, was not undertaken till within the last two months, and has been carried on in the midst of many pressing engagements. Nevertheless, I flatter myself that it will answer much of its intended purposes. These purposes are, mainly,

1. To arrange the *Materia Medica* upon intelligible, physiological, and therapeutical principles.
2. To indicate the relative therapeutic value of the various articles, under their different denominations, by arranging them in the order of their value.
3. To give to the student a comprehensive and ready view of the merits of the various articles composing the *materia*

medica, and of their relations to each other, physiologically considered.

4. To supply a convenient means of graduating the doses of medicines, etc.

It is scarcely necessary to say, that it is not intended to arrange the Classes, Orders, and Subdivisions of remedies according to their relative importance, but only the articles included under each general denomination. The groups under the subdivisions follow the rule of relation; but it is often only the first two or three of the remedies in each group which surpass the first of the next group, although the numbering proceeds methodically throughout each subdivision. Thus, amongst the Alteratives, Division A, tartarized antimony undoubtedly bears a third relative value, but it is marked 13. for the sake of simplicity. So Ipecacuanha has properly the fourth rank, but is, for the foregoing reason, marked 18. Where the foregoing rule does not obtain, the relative value is explained.

The introductory paragraph of this Preface is especially designed for the forbearing consideration of Dr. John Forbes,

the Editor of the British and Foreign Medical Review, and Dr. William B. Carpenter, a large contributor to that Review, who, unitedly, attempted to embarrass the circulation of my "Medical and Physiological Commentaries," by a most unexampled tissue of false representations, constituting the main substance of a review in the April No. (1841) of that Journal. And having made this appeal to their future justice and honor, it may be as well to add, that I subsequently published a pamphlet exposing the gross falsehoods of that review, and submitted a variety of evidence inculcating Dr. Carpenter as its author. In making this personal exposure, I was not only prompted by the common ends of justice, but by the purpose of showing that Dr. Carpenter perpetrated the offence under a spirit of resentment which had no just foundation whatever, and that the review was admitted by Dr. Forbes into the columns of his Journal, in part at least, in consideration of the devotion of that Journal to the physical and chemical hypotheses of life and disease, and the humoral pathology. Upon these doctrines, also, the "Principles of General and Comparative Physiology" by Dr. Carpenter, and the "Med. and Physio. Commentaries," are in direct opposition; and it was a commentary of mine, upon Dr. Carpenter's doctrines, which formed the ground of his animosity. I had there-

fore anticipated a powerful, but an honorable opposition. But fair criticism was in vain, and they proceeded, therefore, to execute their design by the most contradictory system of misrepresentation and falsehood to be found in the annals of literary warfare. Nor was this peculiar to the parties inculpated in this Preface. I have made an ample exposure in different publications, which will be incorporated with the "Commentaries" as an evidence of the injustice which I have received from my cotemporaries. Nevertheless, it should be added, that I have had a large proportion of thanks, and of that exalted nature, and from sources of such distinguished consideration, as to have rendered me indifferent to the calumny of others. But I am not disposed that the transgressions of which I have spoken should pass unrebuked.

The falsification of my labors, by Dr. Carpenter, was of course abundantly evident to Dr. Forbes; and so far as an editor is responsible, my "Examination" was also designed for the benefit of this individual. And it may be yet farther to the foregoing purposes, and be useful to the cause of science and of justice, to submit the following extract of a letter which I have lately received from one of the most eminent philosophers of Europe; with whom, however, I should

premise that I have not the honor of an acquaintance, nor have I ever before received any communication from him.

"DEAR SIR :

"I beg to thank you for the copy of your 'Examination' which you were so kind as to send me, and which I had the pleasure of receiving a few days ago. The exposure, etc., will do good. The whole system of anonymous medical reviewing in this country is disgraceful, conducted as it is almost entirely by the hands of a set of pert boys, at most but just emerged from their medical studies."



INSTRUCTIONS.

FOR the sake of brevity, and to impress the memory, characters or symbols are frequently employed to indicate the combinations of remedies. The initial letters following the usual \mathfrak{R} stand for the article with which the formula is connected. If a figure follow next, it stands for the article so numbered in that group. If an article be derived from another class, the word *class* is introduced, and the number following indicates which class. Then follows a number referring to the intended article in that class; or, if the class have orders or subdivisions, the word *order* or *sub.* with the number or letter indicative of which *order* or *subdivision*, precedes the number which stands for the remedy. If several numbers succeed each other uninterruptedly, after the announcement of the class, etc., they all refer to remedies under the same group.

In indicating the medicines which may be most advantageously combined for the purposes suggested by the denominations of the different groups, I have generally avoided the proportions in which they may be brought together; since

this can only be properly denoted by the existing conditions of disease. Systematic formulæ, with definite proportions of the several ingredients purporting to be adapted to diseases of some given *name*, and especially where the compounds may be extemporaneously prepared, are not founded upon just conceptions of pathology, lead others to inaccurate views, and encourage indolence and empiricism.

The fluid measure is intended for all liquids.

The doses are designed for adults, unless otherwise indicated.

Latin, or English, is used indifferently in the formulæ, and to designate compounds, as may have been thought most likely to promote the convenience of all.

GENERAL PRINCIPLES.

"EXAMINE all the physiological and all the pathological phenomena, and you will see that there is no one which cannot be ultimately referred to some one of the vital properties of which I have just spoken. The undeniable truth of this assertion brings us to a conclusion not less certain in the treatment of diseases, namely, that every curative method should have for its object the restoration of the altered vital powers to their natural type."

"To what errors have not mankind been led in the employment and denomination of medicines? They created deobstruents when the theory of obstruction was in fashion, and incisives, when that of thickening of the humors prevailed. The expressions of diluents and attenuants were common before this period. When it was necessary to blunt the acrid particles, they created inviscants, incrassants, etc. Those who saw in diseases only a relaxation or tension of the fibres, the *laxum* and *strictum* as they called it, employed astringents and relaxants. Refrigerants and heating remedies were brought into use by those who had a special regard in diseases to an excess or a deficiency of caloric. The same identical remedies have been employed under different names, according to the manner in which they were supposed to act. Deobstruent in one case, relaxant in another, refrigerant in another, the same medicine has been employed with all these opposite views; so true is it that the mind of man gropes in the dark, when it is guided only by the wildness of opinion."

"Hence the vagueness and uncertainty our science presents at this day. An incoherent assemblage of incoherent opinions, it is, perhaps, of all the physiological sciences, that which best shows the caprice of the human mind. What do I say? It is not a science for a methodical mind. It is a shapeless assemblage of inaccurate ideas, of observations often puerile, of deceptive remedies, and of formulæ as fantastically conceived as they are tediously arranged."—*Bichat's General Anatomy, applied to Physiology and Medicine*, vol. I., p. 17.

"It is only here necessary to caution the practitioner against those fallacies into which the captivating theories of the chemist may seduce him."—*Paris' Pharmacologia*, vol. I., p. 319.

1. All remedies operate upon the same principle as morbid agents, and all become morbidic when injudiciously applied. Applied to the healthy system, they alter the vital properties and actions so as

to-constitute disease. If improperly employed under circumstances of disease, they develop new morbid conditions, and exasperate such as already exist. "Medicines," says Linnæus, "differ from poisons, not in their nature but in their dose." And so Pliny: "*ubi virus, ibi virtus*."

2. All remedies which actually produce an influence upon disease are alteratives.

3. All curative agents operate upon the morbid properties, either directly or through sympathy, and produce their salutary results by so altering the morbid properties as to enable them to take on their natural tendency to a state of health. It is nature, therefore, that cures; art only places nature in the way of cure. All therapeutics consist in the foregoing principles.

4. Remedial agents operate directly upon the vital properties of the parts to which they are applied, and, through the medium of those parts, upon remote organs by the principle of sympathy.* The partial absorption of certain remedies is only a contingent result, and has little or no agency in the physiological phenomena. Their reputed absorption is greatly overrated, often only imaginary, and sometimes misrepresented. Such as have no natural relation to

* See my Introductory Address before the Medical Class of 1841-42, pp. 7, 8.

the vital properties modify the natural condition of the absorbing vessels before they can enter the circulation. (See *Commentaries*, vol. i. *Humoral Pathology*.)

5. The properties of every remedial agent possess peculiarities which belong to no other, and each substance, therefore, is capable of exerting physiological influences peculiar to itself.

6. In the physiological arrangement of remedial agents, they must be considered strictly in reference to their most salutary effects, not according to their bad effects, nor according to their effects on the healthy organization.

7. It is not only wholly unsound to reason from the effects of remedial or morbid agents upon man in health to man in disease, but especially so from their effects on animals, whether healthy or diseased. There would be nearly the same propriety in reasoning from animals to man on the subject of food.

8. Those remedies should be always preferred whose salutary and peculiar virtues are equal to others of the same group, but where others possess properties to which objections apply. This is fundamental in the following arrangement. The order of arrangement under the different classes, according to the relative value of medicines, is founded upon their general advantages as curative agents.

9. The combination of two or more remedial agents so modifies the action of each other, that the

compound is a new article added to the *Materia Medica*. There is nothing more important or more difficult in medicine than this creation of new agents. It involves a sound knowledge of physiology, pathology, and the individual physiological effects of each particular substance which may enter into the compound.

10. The basis of classification rests principally upon some one or more prominent local results of remedial agents, though those results, in a physiological and therapeutical sense, may not be the most important. Where they are most liable to this objection, and where there is great disparity in the physiological effects of different agents that have been hitherto distributed into groups, according to some special result, as in the groups of *sudorifics*, *sialagogues*, *sorbefacients*, etc., those denominations have been rejected. Such as are founded upon the humoral pathology, or no pathology, are not recognised in our philosophy. No new names are invented, but some general denominations are retained, which are employed in a very different sense from their original import. Such, for instance, is the case with *astringents*. Their action, like all other remedies, is alterative; and it is indicative of the changes which they thus induce in the diseased properties of life, that hemorrhage or redundant secretions are arrested. Where no prominent local effect, nor a generally uniform and important result happens, the

remedies are grouped under the denomination of *alteratives*, which term is equally applicable to all other remedial agents. Tonics are especially alterative; but they have a generally uniform effect, which serves as a basis for a distinct group. It is also characteristic of the group of alteratives, that they are employed in small and repeated doses, and with reference to a slow constitutional effect. They are, therefore, better suited to chronic diseases than any other group of agents. The whole class of antiphlogistics are far more alterative, and therefore remedial, than all other classes together.

11. The physiological classification has fewer defects than any other, and offers more important advantages. The defects are mainly remedied by distributing some agents among different groups, according to the varieties of their properties and the effects which they produce in different doses, and according to the different modes of application. But it should be constantly borne in mind, that there are no specifics, that medicines are only remedial in reference to certain pathological conditions, which must be ascertained before a medicine be applied, and that what is curative under one combination of circumstances may aggravate disease when that combination is a little varied. Thus, cinchona is a febrifuge in intermittent fever, when no considerable local inflammation or congestion is present; otherwise, it will generally aggravate the fever, and therefore

is not a febrifuge in relation to that particular state of the pathology. It is also tonic, in enfeebled states of the system, or of the stomach, in the absence of inflammation; but, if inflammation be present, it is not then a tonic, in the proper therapeutical acceptation. The therapeutical arrangement, therefore, presupposes that remedies will be employed with reference to the existing pathological condition.

12. If an active internal agent be of doubtful propriety, its administration should always be delayed, or a remedy of milder properties should be substituted.

13. No unnecessary risks or experiments should ever be undertaken in the treatment of disease.

The following scheme for regulating the doses of medicine is derived from Dr. Young's Medical Literature :

"For children under twelve years, the doses of most medicines must be diminished in the proportion of the age to the age increased by twelve. Thus—at two years, to $\frac{1}{7}$ —namely:

$$\frac{2}{2+12} = \frac{1}{7}$$

At twenty-one, the full dose may be given."

Exceptions must of course exist. A child, for instance, of five or ten years, will bear about as much tartarized antimony, or ipecacuanha, without nausea, as an adult; and this is frequently true of even earlier life.

CLASSES.

- I. Antiphlogistics.
 - II. Permanent Tonics.
 - III. Diffusible Stimulants.
 - IV. Cerebro-Spinants, or Nervous Agents.
 - V. Astringents.
 - VI. Uterine Agents.
 - VII. Urinary Agents.
 - VIII. Anthelmintics.
 - IX. Errhines.
 - X. Chemical Agents.
 - XI. Diet and Regimen, in a general sense.
-

ORDERS.

Class I.—ANTIPHLOGISTICS.

- 1. Bloodletting.
- 2. Cathartics.
- 3. Emetics.
- 4. Alteratives.
- 5. Expectorants.
- 6. Direct Sedatives.

7. Diuretics.
 8. Cutaneous and other Applications.
 9. Low Diet and Rest. (*Negative.*)
-

SUBDIVISION OF ORDERS.

1.—BLOODLETTING.

Subdivisions.

1. General Bloodletting.
2. Leeching.
3. Cupping.

4.—ALTERATIVES.

Subdivisions.

- (A.) General Antiphlogistic Alteratives.
- (B.) Limited Antiphlogistic Alteratives.
 1. Adapted to scrofulous inflammation.
 2. Adapted to syphilitic and certain other chronic inflammations.
 3. Adapted to syphilis complicated with scrofula.
 4. Adapted to rheumatic inflammation.
 5. Adapted to intermittent fever, and intermittent inflammation.
 6. Adapted to obstinate and chronic cutaneous diseases, illustrating farther the physiological effects of certain remedies,

8.—CUTANEOUS AND OTHER LOCAL APPLICATIONS.

Subdivisions.

1. Vesicants.
2. Rubefacients.
3. Suppurants.
4. Escharotics.
5. Potential Cauterants.
6. Actual Cauterants.
7. Alteratives.
8. Sedatives.
9. Astringents.
10. Simple.

INJECTIONS.

1. Enemas.
2. Uterine.
3. Vaginal.
4. Urethral.

GARGLES, etc.

COLLYRIA.

SUBDIVISION OF CUTANEOUS ALTERATIVES.

- (A.) Constitutional Alteratives.
- (B.) Local Alteratives.
 - (a.) Adapted to cutaneous diseases.
 - (b.) Adapted to scrofulous and other indolent tumors, chronic enlargement of joints, etc.
 - (c.) Adapted to rheumatic inflammation.

- (d.) Adapted to neuralgia and neuralgic rheumatism.
- (e.) Adapted to certain conditions of erysipelas, and some other cutaneous inflammations of specific character.
- (f.) Adapted to sprains, etc.
- (g.) Adapted to piles.
- (h.) Adapted to carcinomatous ulcers.
- (i.) Adapted to phagedenic and tuberculous ulcers, and lepra, and impetigo.

Class IV.—CEREBRO-SPINANTS, or NERVOUS AGENTS.

ORDERS.

1. Narcotics.
2. Antispasmodics.
3. Tetanics, or cerebro-spino-excitants.
4. Moto-paralysants.
5. Senso-paralysants.
6. Cerebro-spino-depressants.
7. Doubtful nervous alterants.

CLASS I.—ANTIPHLOGISTICS.

ORDER I.

BLOODLETTING.

According to the relative value of its different modes.

1. GENERAL BLOODLETTING.

This operation should always be performed by the physician, who should be guided, especially as

to the quantity to be abstracted, by its immediate effects. The head and shoulders of the patient should always be elevated during the flow of blood.

Loss of blood, like all other remedial agents, operates directly upon the vital properties, and alters their condition. It may therefore be morbid as well as curative.

2. LEECHING.

Species, — *Sanguisuga officinalis*; inhabits the south of Europe. *Sanguisuga medicinalis*; inhabits the north of Europe. Imported from Hamburg, Lisbon and Bordeaux. Probably long-lived, perhaps twenty years. Subject to many diseases, some of which are epidemical and very fatal. Inhabit pools and swamps.

There is an American species of leech, with a brick-colored belly, which answers tolerably well in warm weather. The American black leech will not bite, and probably has no teeth.

Mode of applying. Let the part be well cleansed. Roll the leeches in a dry linen cloth. Place them in a pill-box and invert it upon the part. Subsequently, promote the bleeding by warm poultices of Indian meal and water. The leech will draw from one to four drachms.

The bleeding is often obstinate from highly vascular parts, and in infants especially. Compression is the surest mode of arresting it. Punk, cobweb, lint, lunar caustic, and alum, are other good applications.

To preserve leeches, they should be kept either in their native mud, or in pure water changed daily. They should also have free access to the open air.

The best method of inducing them to expel their blood is the following : Make a saturated solution of about two teaspoonfuls of salt and water. Immerse the first animal in this solution ; as soon as he has discharged his blood, add more salt, but no more water. Plunge in another leech, and withdraw him as soon as he has fully surrendered. Then add more salt, and so on with every leech. As soon as withdrawn, they should be placed in a bowl of water.

3. CUPPING.

Leeching should generally be preferred to cupping, when the animals may be obtained. (See *Commentaries*, vol. i., p. 134-156, et seq.)

GENERAL CONCLUSIONS RELATIVE TO LOSS OF BLOOD.

"I am of opinion," says Botalli, "that bloodletting sometimes does no service, either because persons have recourse to it too late, or use it too sparingly, or commit some error in both these particulars. But if our fears be so great, and we take away so small a quantity of blood, how is it possible to judge exactly what good or mischief bleeding may do ? For, if a disease which requires the loss of four pounds of blood for its cure, and yet but one be taken away, destroy the patient, it does not therefore

prove destructive because bleeding was used, but because it was employed in an improper manner. But ill-designing and indolent men always endeavor to lay the fault to the bloodletting, not because it did really do mischief, but because they desire to give every body an ill opinion of it. Or, suppose they do not do it from wickedness, they cannot be excused from ignorance and perverseness, both which are doubtless pernicious, but the former much more so." And again: "One hundred thousand men perish from the want of bloodletting, or from its not being timely employed, where one perishes from excessive bleeding, when prescribed by a physician."

"Nothing," says Sydenham, "is more frequently urged as a capital argument, by those who condemn bleeding in the plague, than the mischief which arises from bleeding in an improper manner."

"The half-way practice of moderate bleeding," says Rush, "has kept up the mortality of pestilential fevers *in all ages and in all countries*. It is much better *not to bleed at all* than to draw blood disproportionate in quantity to the violence of the fever; that bleeding must not be discontinued as long as the symptoms which first denoted its necessity continue."

"Whatever be the quantity of blood," says Robert Jackson, "it is the *effect* produced which constitutes the rule for judging the measure." "It must be carried sufficiently far to produce a direct effect

upon disease, to which the remedy may be appropriate."

Mr. Pereira, in objecting to Dr. Hall's rules, remarks, that "the susceptibility to syncope is so great in some persons, that we should, I suspect, be often led into error, if we were to infer the absence of inflammation merely from the occurrence of fainting after the loss of a few ounces of blood. Besides, it not unfrequently happens that a patient faints on the first, but not on the second or third, bleeding." This is very often true in congestive fever. (See my *Commentaries*, vol. i. *Bloodletting*.)

Again Pereira justly observes: "Neither do I think it would always be safe to bleed *ad deliquium*, for in some it is difficult to occasion syncope, although the quantity of blood lost be so great as to endanger the safety of the patient." (*Materia Medica*, 1840.) This is undoubtedly possible, but I know of no instance in which death has immediately followed the abstraction of blood by a physician; nor have I ever seen a patient apparently much injured by the loss of blood. But, like all other remedies, its excessive application is likely to do more or less injury. Where, however, an excessive loss of blood is detrimental in one instance, abuse of other active remedial agents, or the neglect or other improper application of bloodletting, is injurious or destructive in hundreds of thousands of cases.

In prostrating forms of congestive fever, moderate

bloodletting at first increases the tolerance of its loss, so that, within a few hours, large quantities may be abstracted without inducing syncope. (See *Comm.*, vol. i. *Bloodletting*.)

In some conditions of great prostration, previous stimulation may be—though not often—necessary.

General Conclusions from the Essay on the Philosophy of Bloodletting, as contained in the Medical and Physiological Commentaries. (Vol. i., p. 361.)

1. That bloodletting produces its direct and efficient impression upon the *vires vitæ* of the capillary blood-vessels, by modifying their action.

2. The quantity of blood to be removed relates directly to that impression.

3. Its most salutary effect will, therefore, consist in its nearest approximation to a full but just impression upon the *vires vitæ*.

4. To produce and maintain this impression will require the abstraction of a certain quantity of blood in every case, the measure of which will be the antecedent and resulting symptoms.

5. Bloodletting may add to the violence of disease by coming short of that impression; or, it may equally injure, if carried to excess, and may even induce new inflammation.

6. Its local, and sometimes its general, application

is remedial when inflammation is induced by excessive bloodletting alone.

7. Bloodletting may be a remedy for other diseases than inflammation.

8. It is equally safe at all periods of life, is most indispensable in old age, though not less important in many diseases of infancy.

9. If employed as a prophylactic, on passing from northern into tropical countries, it must be with such moderation as shall not increase irritability; and then only in the plethoric or robust.

10. General bloodletting, cupping, and leeching, operate upon common principles, which are more or less modified in each mode of abstracting blood. Cupping is intermediate in this respect betwixt general bloodletting and leeching.

11. General bloodletting is wholly a more important remedy than leeching; and whilst cases constantly arise in which the latter cannot be substituted for the former, there are numerous instances in which general bloodletting cannot take the place of leeching. Cupping will sometimes answer the purposes of either, and may be better.

12. The brain has a peculiar allotment in the effects of bloodletting; and inflammation of this organ will generally sustain a greater loss of blood than any other. There are peculiar conditions of this organ, however, as in some cases of mania, delirium-a-potu, and especially apoplexy, in which, on account

of the relation of the nervous influence to the organic powers, and the manner in which that influence is determined by bloodletting, the abstraction of blood may be either inadmissible, or must be practised with great circumspection.

13. Spontaneous hemorrhages, occurring at adult age, should not be restrained, unless manifestly proceeding to excess.

ORDER II.

CATHARTICS,

In the order of their value.

These are agents which, more than any others, may be advantageously compounded, and their alterative effect may be frequently much improved by small additions from the four first amongst the group of *emetics*. Where the intestinal canal is morbidly irritable, it will often happen that one of the *narcotics*, from 1 to 19, will be an important adjunct.

GROUPS OF CATHARTICS.

I divide cathartics into thirteen groups :

1. The mercurial cathartics.
2. Jalap, podophyllum, spurious jalap, wild potato.
3. Castor oil.

30 CLASS I. ORDER II. GROUPS OF CATHARTICS.

4. Aloes.
5. The saline cathartics.
6. Rhubarb, mountain rhubarb.
7. Senna, purging cassia, buckthorn.
8. Calcined magnesia, carbonate of magnesia.
9. Colocynth, scammony, gamboge, black hellebore, elaterium, white hellebore.
10. Croton oil, spurge oil.
11. Mild aperients, as extract of butternut, sulphate of potash, bitartrate of potash, sulphurous and saline waters, common salt, sulphur, manna, tamarind, dandelion, soap.
12. Thoroughwort, fever-root, buck-bean.
13. White bryony, variegated iris, tuberous iris, creeping hairy spurge, American poke root, Indian hemp, cahinca root, purging nuts, mezereon, hedge hyssop.

1. CALOMEL. Hydrargyri sub-murias — hydrargyri chloridum. Submuriate of mercury — mild muriate of mercury.

Composition.—Mercury, 1 eq. Chlorine, 1 eq.

Dose.—Adult, 3 to 20 grs. Child of ten years, 2 to 8 grs. Five years, 2 to 5 grs. One year, 1 to 3 grs. In doses below 1 or 2 grs., it is employed especially as an alterative. (See *Alteratives*.)

Imperfectly cathartic, generally requiring the combination of some others, of which Nos. 3, 4, 6, 12, 16,* 17, 21, 18, and 31 are the best. When 16,* 17,

18, and 31 are added, 6 or 3 should be also. If an active combination be required, 19 or 20 may be added, along with 6, 16,^b and 17, or 18 and 31 may be also associated, or A 13, 18, 19, or 20, of the alteratives. These last are often an improvement to the milder combinations.

To any of the combinations, No. 8 of the narcotics may be added to relieve intestinal irritation, pain, and to moderate the cathartic effect. The salts of morphine will do the same with less astringency, less diminution of the hepatic and urinary secretions, and less unpleasant influence upon the brain. But No. 8 or 13 is often preferable. No. 16 is without astringency, relieves irritation and pain, and leaves little cerebral consequences; or 19 is often useful, especially for quieting gastric or pulmonary irritation. Myrrh may be sometimes usefully added, along with any of the foregoing combinations. It will be also often useful to unite with them some one of the aromatic oils.

Calomel may be often most advantageously given alone, and followed, in six or twelve hours, by Nos. 5, 7, 8, 9, 10, or 3 or 4 combined with 11, or 12 combined with 7 and 14. If 13 be given, it should only be when the bowels are not morbidly irritable; nor are combinations with 6, 12, 16, 17, 18, 19, 20, or 31, suited to such conditions, or when any active inflammation or high febrile excitement is present.

Calomel is adapted to acute inflammations and to fever, in their early stages, especially after blood-letting, where it may be appropriate. Calomel should be cautiously employed; unless in small doses in inflammatory affections of the bowels. If it produce a large discharge of intestinal mucus, it is bad. It should only be given in scarlet fever at the onset of the disease, or in some of its sequelæ, where it is a valuable agent. Calomel is powerfully of an alterative nature, and it is mainly with this intention that it is exhibited in large doses, much less with reference to its cathartic properties.

(See *Alteratives*.)

2. BLUE PILL. *Pilulæ hydrargyri*. The mercury thought to be in a metallic state, but probably oxidized.

Dose.—Adult, 2 to 20 grs. Ten years, 2 to 10 grs. Five years, 2 to 5 grs. One year, 1 to 3 grs.

Less cathartic than calomel, and less irritating to the alimentary canal and to the general system. May be often very advantageously combined with the same cathartics as recommended for calomel, with the exception of 3 and 4; or, as in the case of calomel, may be given alone, and subsequently followed, if necessary to a cathartic effect, by the substances recommended for calomel when given uncombined.

Adapted to lower grades of inflammation and fever than calomel. The same precautions are necessary, but in an inferior degree, as are required in respect to calomel. Powerfully alterative, and, like calomel, is employed more with that intention, in its restricted acceptation, than for its cathartic properties. (See *Alteratives, and ol. ricini.*)

3. JALAP. *Ipomæa purgans*. The root. A native of Mexico.

Dose. — grs. x to grs. xxx.

A safe and efficient cathartic, if no intestinal inflammation be present. Rather depresses than raises the general circulation, and therefore well adapted to inflammations remote from the alimentary canal. Is more positive in its influences upon acute inflammations and fever than any other active cathartic, especially when properly combined with other substances. The best formulæ are the following :

℞. J. 1. ℞. J. 1 and order 8, 1. ℞. J. 1, and order 4 A. 18 or 19. ℞. J. 11. ℞. J. 11, 12. ℞. J. 1, 12. ℞ J. order 4 A. 18 or 19, class 3. 12.^a ℞. J. 23. ℞. J. infus. 6.^a ℞. J. infus. 12.^o ℞J. infus. class 8. 2.

(a.) Tincture of Jalap.

Formula. — J.^a 13 infus. 13,^a 11, 13.^b ℞. J.^a 8, 13 infus. class 4, order 1, 11. order 2, 6.^a

(b.) Alcoholic resinous Extract of Jalap.

Dose. — grs. iij to vj, rubbed with sugar. Irritating. Far inferior to the root. Watery extract inert. Jalap resin. Jalapia. Jalapic acid, *proximates*.

4. MAY APPLE, MANDRAKE. *Podophyllum Peltatum*. The root. Native of the United States.

Very analogous in its properties to jalap, and hence it is ranked next to that substance in this arrangement. The same compounds may be employed. Not quite so rapid in action as jalap.

Dose. — grs. xx to xxx.

(a.) Tincture of *Podophyllum*. Similar to tincture of jalap.

(b.) Watery Extract of *Podophyllum*. An excellent cathartic, and analogous to the powdered root.

Formulae. — \mathfrak{R} . P.^b 1. \mathfrak{R} . P.^b 2. \mathfrak{R} . P.^b 6, 12. \mathfrak{R} . P.^b 6, 16,^b 17. \mathfrak{R} . P.^b 21. \mathfrak{R} . P.^b 1, 6, 12, \mathfrak{R} . P.^b 1, 6, 16,^b 17, 31.

5. CASTOR OIL. *Ricinus Communis*. Possesses very peculiar properties. Cumulative in effect, so that, when frequently repeated, (as every day or every other day,) it is commonly necessary to reduce the quantity, from one or two table spoonfuls to a tea spoonful, or even a fourth of a tea spoonful. This is greatly owing, however, to the specific action of castor oil upon the liver, and the consequent increased production of bile. Is peculiarly advan-

tageous when exhibited a few hours after calomel or blue pill. Very useful to overcome habitual costiveness, on account of its action upon the liver, when it should be given in a small dose every evening. Well adapted to children and pregnant women, to lead colic, and as an enema for ascarides.

Formulae. — ℞. Oil, 19 or 20. ℞. Oil, Class 4, Order 1, 1, or 11, or 12.

6. ALOES. Aloe socotrina — aloe spicata — socotrine aloes. Also, hepatic aloes — Barbadoes aloes — Cape aloes — foetid horse aloes — Indian aloes. Contains no resin. Operates upon the whole tract of the intestines. It is an error, that its action is principally on the lower portion of the large intestine. Exerts a powerful alterative effect upon diseased conditions of the liver. Excites the organs of circulation, and is unsuited to active forms of fever and inflammation. Very useful in torpid states of the bowels, especially in promoting a secretion of bile.

See Calomel and Blue Pill for several formulæ; also, ℞. a. 1. order 4, A. 18, class 4, order 1, 13, 16. ℞. a. 12, 52, ℞. a. 16,^b 17 ℞. a. 16,^b 17, 18, 31, order 4. A. 13. ℞. a. 1 or 2, class 4, order 1, 16. ℞. a. 1, 16,^b 17, class 2, 15. ℞. a. 17, 12,* class 3, 14.^b ℞. a. 12, 21, class 2, 9. ℞. a. order 4. A. 1, 13, Sub. 5, 1. ℞. a. 18, class 2, 43. ℞. a. 16.^a 3,^b 31, 17, class 4, order 1, 16.

(a.) Tincture of aloes.

(b.) Compound tincture of aloes.

(c.) Wine of aloes.

℞. a,^b class 2, 2 infus. ℞. a,^b class 2, 7. R. a,^b 12 infus. ℞. a,^b 13 infus.

A^a and a^o same combinations as a.^b

7. TARTRATE OF POTASH AND SODA, ROCHELLE SALTS. Potassæ sodio-tartras. Potassæ et sodæ tartras.

Dose. — 4 to 8 drachms.

℞. T. P. class 10, 2, 13. *Seidlitz Powders*, ℞. T. P. 13 infus. class 3, 9.^b

All the saline cathartics induce copious serous secretions from the alimentary mucous membrane. They have but little alterative effect upon severe conditions of disease. They are never suited to irritable or inflammatory states of the bowels, though their tendency is to moderate all degrees of general excitement that may arise from fever or inflammation of other parts. Hence the saline cathartics are emphatically called antiphlogistic, though, in reality, they are not efficient agents.

8. SULPHATE OF MAGNESIA, EPSOM SALTS. Magnesiae sulphas.

Dose. — 4 to 8 drachms.

℞. M. S. 9, order 4 A, 13,^a class 3, 17.^o ℞. M. S. 9, class 2, 9, class 4, order 2. 5.^o ℞. M. S. 13 infus.

℞. M. S. class 2, 28. ℞. M. S. class 2, 2 infus, or 16 or 17 infus. ℞. M. S. 12 infus. 6,^b class 2, 2 infus. 18 infus.

9. SULPHATE OF SODA, GLAUBER SALTS. Sodæ Sulphas.

Dose. — 4 to 8 drachms.

See 8. ℞. S. S. 13, infus. ℞. S. S. 8 25, class 2, 9, Cheltenham salts.

10. PHOSPHATE OF SODA. Sodæ phosphas.

Dose. — 6 to 12 drachms.

11. TARTRATE OF POTASH. Potassæ tartras.

Dose. — 2 to 6 drachms.

℞. P. T. 13 infus. ℞. P. T. 17. ℞. P. T. 3. See 3.

12. RHUBARB. Rheum palmatum. Turkey or Russian rhubarb. Also Dutch trimmed or Batavian; China or East Indian; Himalayan; English; French.

Dose. — grs. x to grs. xxx.

Tonic and astringent. Not adapted to fevers or inflammations till they have been mainly subdued by other remedies. Limited in its use as a cathartic.

℞. R. 14. ℞. R. 1. ℞. R. 1. 3. ℞. R. 7. ℞. R. 6. 52. ℞. R. 6, 17. ℞. R. 22, class 3, 9,^b ℞. R. 7, 14. ℞. R. 14, class 3, 11.^c ℞. R. class 3, 12,^c class 4. order 1, 11. class 10, 1.

- (a.) Tincture of rhubarb. *Dose*, ℥ss to ℥i.
- (b.) Wine of rhubarb. *Dose*, ℥ss to ℥i.
- (c.) Tincture of rhubarb and aloes. *Dose*, ℥ss to ℥i.
- (d.) Tincture of rhubarb and gentian. *Dose*, ℥ss to ℥i.
- (e.) Extract of rhubarb. *Dose*, grs. x to grs. xxx.

13. SENNA. *Cassia acutifolia* and *C. obovata*, Alexandrian senna and Aleppo senna. *Other Species.* *C. elongata*, Mecca senna, *C. Æthiopica*, Tripoli senna, Smyrna senna. *C. Marylandica*, American senna. Also Tinnevely senna. The leaves.

Very irritating to the intestinal mucous membrane, and should never be given in its irritable or inflammatory states. Is rarely useful in climates where remittents and intermittents prevail. According to my own observation, senna should be numbered lower. It has no great alterative effects in disease, but very readily increases and excites disease of the intestinal canal.

Dose.— ℥j to ℥ii, infused in boiling water; drank at short intervals.

℞. S. 9, class 3, 12.^a ℞. S. 7, class 3, 9.^b ℞. S. S,^a 28, 7. ℞. S. 22, class 3, 18.^a ℞. S. order 4, sub. 5, 14.^a See 3.^a

- (a.) Compound tincture of senna. *Dose*, ℥ss to ℥i.
- (b.) Syrup of senna. *Dose*, ℥ss to ℥i.
- (c.) Confectio sennæ. *Dose*, ℥i to ℥ss.

14. CALCINED MAGNESIA. *Magnesia calcinata*, *magnesia usta*. Is entitled to rank before senna.

Dose. — ʒj to 3 iss.

R. M. 12. R. M. 12, class 3, 11.^a R. M. 7. R. M. 7, 12.

15. SUBCARBONATE OF MAGNESIA. *Magnesiae subcarbonas.*

A useful and mild cathartic, but superseded by the analogous and superior virtues of the calcined magnesia.

Dose. — ʒj to 3 iss.

Same formula as 14.

16. COLOCYNTH, BITTER CUCUMBER. *Cucumis Colocynthis.* Pulp of the fruit. Native of the Cape of Good Hope, Japan, Coromandel, Syria, Egypt, Turkey. Cultivated in Spain.

Dose. — grs. ij. to x.

Rarely used uncombined, and then with the same ingredients as are directed for the extract. An active and efficient but irritating purgative; possessing properties considerably analogous to aloes.

(a.) Extract of colocynth. See 1, 2, 6.

Dose. — grs. v to ʒj.

R. E. C, class 4, order 1, 16 or 19. See 1, 2, 6, for other combinations.

(b.) Compound extract of colocynth.

Dose. — grs. v to ʒj.

R. C. E. C. class 4, order 1, 1, or 17. R. C. E. C. 3,^b order 4; A. 1, 13, class 3, 29,^a class 4, order 1, 16. See 1, 2, 6, for other combinations.

17. SCAMMONY. *Convolvulus Scammonia*. Native of Greece and the Levant. Formed of gummy resinous exudations from incisions into the root.

Useful in torpid states of the intestines, especially when attended by deficient biliary secretions. An irritating cathartic, and therefore objectionable in the active stages of all fevers and inflammations. It is most useful in combination with calomel, blue pill, aloes, colocynth, and rhubarb — which see. Commonly adulterated with chalk and flour.

Dose. — grs. v to xv.

(a.) Compound powder of scammony.

Dose. — grs. v to ℥j. Rarely used.

℞. C. P. S. 1. 16,* class 3, 19.

(b.) Electuary of scammony.

Dose. — ℥j to 3j. Rarely used.

18. GAMBOGE. *Hebradendron cambogioides*; or *stalagmatis cambogioides*. Native of Ceylon, Siam. *Varieties.* — Pipe, lump.

Acrid and often violent when uncombined; frequently vomiting as well as purging. United with mercury, aloes, rhubarb, scammony, or colocynth, its acrid and emetic properties are subdued, and it contributes to the useful effects of the other remedies whilst it promotes their activity as cathartics. It may be combined with two or more, or with the whole.

Dose. — grs. ij to x.

19. CROTON OIL, PURGING OIL. *Croton tiglium*. Oil expressed from the seed. Native of India, Ceylon, Indian Archipelago. An old remedy revived.

Its action is rather moderate in doses of one or two drops, but liable to be very irritating and powerful in larger quantities. Sometimes valuable in obstinate constipation, and peculiarly useful in apoplexy and comatose diseases, as it operates upon the combined principles of continuous and remote sympathy, and therefore does not require to be swallowed. This explains the reason why it sometimes purges when applied to the skin. It often forms a useful addition to castor oil, or to other cathartics, where it is an object to increase the activity and rapidity of their operation.

Dose. — One to three drops.

20. CAPER OR SPURGE OIL. *Euphorbia lathyris*. Oil expressed from seeds. Europe and America.

Actively cathartic, and apt to nauseate and vomit. More irritating than croton oil, but otherwise analogous to it, and may be used as a substitute.

Dose. — Five to ten drops.

21. EXTRACT OF BUTTERNUT. *Juglans cinerea*. United States.

Is entitled, perhaps, to a higher rank in this arrangement, though capable of no great remedial effects. A safe and mild cathartic, producing less

intestinal and constitutional irritation than other extracts of equal power. In this respect it is particularly valuable. It may be combined with any of the preceding cathartics which are susceptible of being formed into pills.

Dose. — grs. v to 3ss.

22. SULPHATE OF POTASH, VITRIOLATED TARTAR.
Potassæ Sulphas.

Mild, and but little irritating. Most useful when combined with rhubarb.

Dose. — grs. xv to 3v.

23. BITARTRATE OF POTASH, CREAM OF TARTAR.
Potassæ supertartras — *Potassæ bitartras.*

Properties analogous to the tartrate of potash, but inferior. The excess of tartaric acid renders the bitartrate irritating to the intestinal canal.

Dose. — ʒj to ʒi. *℞. P.* 26. *℞. P.* 3, class 3, 19.

24. SALINE AND SULPHUROUS MINERAL WATERS.
Aquæ minerales naturales.

There are five principal varieties of saline waters.

(a.) The *Briny Waters*, in which the distinguishing ingredient is the chloride of sodium. These occur at Saratoga, Cheshire, Staffordshire, Worcestershire, and Leicestershire, to which may be added the sulphurous old well of Harrowgate.

(b.) *Purging Saline Waters*, having either the sulphate of soda or the sulphate of magnesia for the characteristic ingredients. The sulphate of magnesia predominates in the springs of Epsom, Scarborough, Seidlitz, Bedford, and White Sulphur. Sulphate of soda occurs in the springs of Cheltenham, Spital, and Leamington.

(c.) *Calcareous Waters*. These contain chiefly the sulphate or the carbonate of lime. They have no great remedial virtues. They occur at Bath, Buxton, and Bristol. Their apparently useful results are mostly due to exercise, change of air, society, etc.

(d.) *Alkaline Waters*, of which the carbonate or bicarbonate of soda or magnesia are large constituents. They pass into the preceding orders, and, indeed, belong chiefly to them. They then assume a compound name, as the acidulo-alkaline, etc. This order embraces the Ballston Sans Souci Spring, the Saratoga Congress Spring, the Springs of Carlsbad, of Malvern, Pyrmont, Seltzer, etc.

(e.) *Siliceous Waters*. Silicia occurs in small quantities in most mineral waters, but is very abundant in some, as in the boiling springs of Geyser, in Iceland, and in others of the western United States, where the quantity exceeds more than half the solid constituents. It is not, however, medicinal.

The principal sulphurous waters are the celebrated Harrowgate, the Moffatt and Rothsay, Aix-la-

Chapelle, Aix and Enghien, in Europe; the White Sulphur, Avon, Clifton, etc., in the United States.

The foregoing waters, so far as they are medicinal, exert considerable alterative effects. (See *Alteratives, and Tonics*.)

25. CHLORIDE OF SODIUM, MURIATE OF SODA, SEA SALT. Sodii Chloridum.

Cathartic and emetic. Dose, as a cathartic, ʒi to ʒiv. Emetic and cathartic, ʒvi to ʒxii. Mild. Probably more remedial than is generally supposed. It is capable of arresting hemoptysis rather remarkably.

26. SULPHUR, BRIMSTONE. Sulphur sublimatum; or S. præcipitatum. Sicily, Naples. A mild purgative, and capable of alterative influences upon some chronic cutaneous diseases, and chronic rheumatism. Useful in piles. (See *Cutaneous Applications*.)

Dose.— ʒi to ʒiv. R. S. 23.

27. THOROUGHWORT. Eupatorium perfoliatum. Flowers and leaves. United States.

Cathartic, emetic, and, in small quantities, a valuable tonic. But little irritating; induces perspiration and moderates fever, in large doses. Mainly adapted to common colds, in full doses, and to dyspeptic affections, in smaller doses, for which it is a popular and safe remedy.

Dose. — ~~℥ij to 3ij~~ of strong decoction. 3/4-1 3/4

(a.) Extract of Eupatorium. Less useful. Other species of Eupatorium, as the *E. purpureum*, and *E. teucrifolium*, and perhaps thirty other species in the United States, have analogous but inferior virtues.

27½. FEVER ROOT. *Triosteum perfoliatum*. Bark of root. United States.

Mildly cathartic and emetic.

Dose. — ʒj to 3ss. R. T. 1.

(a.) Extract of triosteum.

Dose. — grs. x to xv. R. T. 1. R. T. 1, 6.
(See *Emetics*, 10.)

28. MANNA. *Ornus Europæa*. European flowering ash. Calabria, Sicily.

Mildly cathartic.

Dose. — ʒj to 3ij. R. M. 13, class 3, 12.

29. SYRUP OF BUCKTHORN. *Rhamnus catharticus*. Europe, United States.

Irritating, griping; rarely used. Formerly much employed in dropsy, rheumatism, and gout.

Dose. — Of syrup, ʒss to 3j; of recent berries, ʒj; of dried berries, 3j; of the expressed juice, fʒss to f3j.

30. SPURIOUS JALAP. *Convolvulus orizabensis*. The root.

Dose. — 3ss to 3j.

Similar to jalap, but comparatively inert. It is therefore ranked low in the arrangement.

31. BLACK HELLEBORE, CHRISTMAS ROSE. *Hel-leborus niger*. The root. Greece, Italy, France, Spain, etc.

Dose. — grs. iij. to xx.

A drastic irritating cathartic, but its action so modified by combination with others as to be rendered an useful auxiliary.

See 1, 2, 6, 16, 17, for formulæ.

In an over dose, a narcotico-acrid poison.

(a) Tincture of black hellebore.

(b.) Extract of black hellebore.

Little used.

32. ELATERIUM, SQUIRTING CUCUMBER. *Momor-dica Elaterium*. South of Europe. An extract from the fruit is alone employed.

Dose. — One sixteenth of a grain to one grain.

A violently active, acrid cathartic, leading to inflammation of the intestinal mucous membrane, to great constitutional disturbance, and therefore, to the development of disease in remote organs, or to the exasperation of such as may already exist. It should be rejected from the *Materia Medica*, and is only allowed the place it here occupies on account of the high estimation in which it is held by many as a cathartic in dropsy and in obstinate constipation.

(See *Pereira's Mat. Med.*) The commendation of this article, as well as of many of the drastic and violent emetics, contrasts strongly with the prejudices of authors against bloodletting in inflammations and fevers. (See *my Medical and Physiological Commentaries*, vol. i., p. 273.) Elaterium is very liable to deterioration from age.

33. PURGING CASSIA. *Cassia fistula*. The pulp. East Indies, Egypt—cultivated in the West Indies.

Rather irritating, griping, flatulent, nauseating. Not contra-indicated by fever or inflammation remote from the intestinal canal, but has no great alterative effect. — Laxative, ʒss to ʒij; purgative, ʒss to ʒij. R. C, 28.

(a.) Electuary of cassia.

Dose.— ʒij to ʒi.

34. WILD POTATO. *Convolvulus panduratus*. The root. The United States.

Mildly cathartic, producing but little irritation, and probably not very remedial. Its virtues have not been much investigated.

Dose.— ʒss to ʒj.

35. MOUNTAIN RHUBARB OR DOCK. *Rumex crispus*, *R. obtusifolius*, *R. alpinus*. The root. Europe, United States.

Analogous to rhubarb, but much inferior. Mildly

• **Laxative, tonic, and astringent.** Used as an alterative in cutaneous eruptions and syphilis. An ointment is also employed.

Dose.—Of strong decoction, ℥ij to ℥iv; repeated.

36. **TAMARIND.** *Tamarindus Indica.* Pulp of Pod. East and West Indies, Arabia, Egypt.

A mild laxative, but has no other remedial properties. Employed by the humoralists, in fever, under the denomination of *refrigerant*; but its frequent repetition irritates the intestinal mucous membrane, though much less so than lemon juice.

Dose.—As a laxative, ℥ij to ℥j. — *R.* T. 22, 26.

37. **BUCK BEAN.** *Menyanthes trifoliata.* The root. Europe and United States.

Tonic, cathartic and emetic. Somewhat analogous to *Eupatorium perfoliatum*. Formerly employed in intermittents, rheumatism, dropsy, scurvy, scrofula, etc., but found wanting in alterative virtues. Not much employed now.

Dose.—Of powder, ℥j to ℥j; of extract, grs. x to grs. xx.

38. **WHITE BRYONY.** *Bryonia alba.* Europe. The root.

Emetic and cathartic; irritating.

Dose.—℥j to ℥j.

39. **WHITE HELLEBORE.** *Veratrum album.* The root. Mountainous countries of Europe.

An acrid emetic and cathartic; extremely liable to produce intestinal-inflammation. Only admissible in some conditions of rheumatism and gout.

Dose. — grs. j to grs. vj. (See *order 4, subdivision 5.*)

40. **VARIEGATED IRIS.** *Iris versicolor.* The root. United States.

A powerful, acrid, irritating, prostrating cathartic and emetic.

Dose. — grs. v to grs. xx.

41. **TUBEROUS IRIS.** *Iris tuberosa.* The root. Europe.

Emetic and cathartic.

Dose. — grs. x to grs. xxx.

42. **CREEPING HAIRY SPURGE.** *Euphorbia hirta.* The plant.

An active, acrid purgative.

Dose. — 3j.

Several other species, which are actively emetic and cathartic. All acrid and irritating.

43. **AMERICAN POKE ROOT.** *Phytolacca decandra.* The root. United States.

Emetic and cathartic. Emetic virtues predominate. Operation begins slowly and is prolonged,

which constitute the principal objections. Moderately narcotic. In over doses, excessive in its action.

Dose. — grs. x to ʒj.

44. INDIAN HEMP. *Apocynum cannabinum*. The root. The United States.

An active emetico-cathartic. Lessens the frequency of the pulse, and is somewhat narcotic. Enjoys some reputation as a remedy for dropsy, but its violence is an objection to its use.

Dose. — grs. x to ʒss.

(a.) Watery extract of Indian hemp.

Dose. — grs. ij to iv, from one to three times a day.

45. CAHINCA ROOT. *Chiococca anguifuga*. Brazil.

Cathartic, emetic, tonic, diuretic. Commended by the Brazilians and French in dropsy; but is slowly cathartic and uncertain in moderate doses, and powerfully emetic and cathartic in larger.

Dose. — Of bark of root, ʒj to ʒj; of extract, grs. x to xx, which is the best.

46. CULVER'S PHYSIC. *Leptandra virginica*. The root. United States.

Emetic and cathartic. Violent in its recent state; uncertain when dry.

Dose. — ʒj to ʒj.

47. PURGING NUTS, BARBADOES NUTS. *Jatropha curcas*. The seeds. South America and Asia.

Emetic and cathartic. Slow, acrid, and violent.

Dose. — 4 seeds.

48. MEZEREON. *Daphne Mezereum*. Bark of root. Great Britain.

A violent, acrid emetic and cathartic, without any of its reputed claims as an alterative in syphilis, though possibly useful in some cases of rheumatism. But there are better and less hazardous remedies.

R. D. M. $\frac{3}{4}$ ss boiling water, $\frac{1}{2}$ liij steep.

Dose. — $\frac{3}{4}$ ss.

49. HEDGE HYSSOP. *Gratiola officinalis*. The herb. South of Europe.

An acrid, drastic cathartic and emetic.

Dose. — grs. x to 3 ss.

50. EXTRACT OF DANDELION. *Taraxacum dens leonis*. Europe and America.

Dose. — 3 ss to $\frac{3}{4}$ ss.

Probably wanting in its reputed virtues.

51. FLORENTINE IRIS. *Iris Florentina*. The root. Southern Europe.

An acrid, irritating emetic and cathartic. Mainly valued for its agreeable odor.

52. SOAP. *Sapo dura*.

As employed in this group, it merely serves as a convenient solvent constituent of gummy and resinous substances when made into pills.

NEARLY OBSOLETE.

Blue flag; *iris virginica*; the root. Yellowwater iris; *iris pseudo-acorus*; the root. Scammony spurge; *euphorbia cyparissias*; the root. Narrow-leaved spurge; *euphorbia angustifolia*; the root. Sea spurge; *tithymalus paralius*; the root. Bladder senna; *colutea arborescens*; the leafets. Dyer's saffron; *carthamus tinctorius*; the flowers. Toad flax; *antirrhinum linaria*; the herb. Celandine; *chelidonium majus*; whole plant. Biting stone-crop; *sedum acre*; the herb. Chicory; *cichorium intybus*. the root. Polypody; *polypodium vulgare*; the root.

ORDER III.

EMETICS.

Like all other remedial agents, emetics operate as alteratives, and upon vital principles. In all their influences upon parts remote from the stomach, the results are determined through the laws of sympathy.

The range of disease to which emetics are applicable is very limited compared with that over which cathartics and the specific group of alteratives extend their reach. They are mainly applicable to acute and chronic inflammatory affections, especially of the

pulmonary, mucous, and cellular tissues; to continued, intermittent, and some conditions of remittent fevers; and finally, are important for the simple purpose of dislodging offensive matter, poisons, etc., from the stomach.

They are never appropriate to active inflammations of important organs without previous blood-letting. The best time for their exhibition in fever is a little before an expected paroxysm, and the next best, during the decline of the hot stage.

GROUPS OF EMETICS.

1. Ipecacuanha, gillenia.
2. Tartarized antimony.
3. Sulphate of zinc, sulphate of copper.
4. Squill, blood root.
5. Thoroughwort, fever-root, buck-bean.
6. Common salt, black and white mustard.
7. Indian tobacco, tobacco.
8. The euphorbiæ, American poke weed, Indian hemp, asarabacca, white hellebore, leather wood, acetate of copper.
9. Dog's bane, dog's tooth violet.

Emetics in the order of their relative therapeutic value.

1. IPECACUANHA. *Cephælis ipecacuanha*. The root. Brazil.

Though less alterative than tartarized antimony,

ipecacuanha is safer, and adapted to a greater range of useful purposes.

It is remarkably exempt from liability to irritate the mucous tissue of the stomach injuriously, whilst it is efficient as an alterative; purges but moderately, if at all; has no narcotic property, and is but little more active in a dose of 40 than of 20 grains; does not exert the prostrating effect of tartarized antimony; probably never destroyed life by direct effect.

Dose. — grs. xv to xxv, repeated once in twenty minutes till vomiting takes place. (See *Alteratives*, A. 18.)

℞. I. 2. ℞. I. 5. ℞. I. 9. ℞. I. order 2, 1.
℞. I. 2, order 2, 1. ℞. I. order 2, 12. ℞. I. order 2, 1, 3.

(a.) Emetin.

Dose. — To adult, gr. $\frac{1}{8}$ to $\frac{1}{2}$.

(b.) Wine of ipecacuanha.

Dose. — To child, gut. xx to 3j.

(c.) Syrup of ipecacuanha.

Dose. — To child, gut. x to 3j.

No one of the preparations is equal to the powdered root. The syrup is uncertain; the wine may be too stimulant; and emetin is apt to be violent. To dissolve emetin, add to the water a little acetic or sulphuric acid.

2. TARTARIZED ANTIMONY, EMETIC TARTAR. *Potassæ antimonio-tartras.* *Composition.* — Ditartrate of antimony, tartrate of potash. A double salt. Ac-

tively emetic; sure; profoundly alterative; rather liable to purge, and in so doing, to prostrate the powers of life; often distressing to adults when uncombined, but less so to children; apt to aggravate any existing intestinal inflammation. Most useful in croup, whooping cough, and pneumonia, if uncombined, and in the early stage of fever, when combined with ipecacuanha, or with calomel. Its irritating effects and the gastric and other spasms which it is apt to produce in adults, are greatly obviated by combining it with ipecacuanha. Is a violent poison in excess, especially when it purges actively.

Dose. — gr. $\frac{1}{4}$ to grs. ij.

R. A. 1. R. A. 3. R. A. 1. order 2, 1. May be combined with the cathartics 1, 3, 4, 6, 8, 12, 16, 17, 18, 27, 31, to which, in small quantities, it imparts activity, and moderates their exciting effects in fever and inflammation. Also very usefully combined with the expectorants.

(a.) Wine of Antimony. Less useful than extemporaneous solutions in water. Employed for the same purposes.

Dose. — 3ss to 3ij to children of two or more years. (See *Alteratives and Cutaneous Applications.*)

3. NORTHERN AMERICAN IPECACUANHA. *Gillenia trifoliata*. The bark of root. The United States, north and east.

Dose. — grs. xv to 3ss.

Very analogous but inferior to ipecacuanha. The analogy of its virtues to ipecacuanha and its safety entitle it to the rank which it here occupies.

Formulæ the same as for ipecacuanha.

4. SOUTHERN AMERICAN IPECACUANHA. *Gellenia Stipulacea*. Bark of root. The United States, south and west.

Dose. — grs. xv. to 3 ss.

Properties the same as those of the *G. trifoliata*.

5. SULPHATE OF ZINC. *Zinci sulphas*. Native in the Hartz, etc. Manufactured. *Composition*. — 1 eq. of oxide of zinc, 1 eq. of sulph. acid.

An active and safe emetic, operating in about five minutes, its effects soon over, and but little alterative, excepting as an astringent. Mainly and peculiarly adapted to the simple purpose of evacuating the contents of the stomach, and therefore valuable in cases of poisoning, but not operating with certainty alone. Wholly inferior to the preceding substances for any therapeutical effects.

Dose. — grs. x to xxv.

R. Z. 1. R. Z. 9.

6. SQUILL. *Scilla maritima*. The bulbous root. Spain, Italy, France, Greece, Africa, sea coast.

Stimulant to the extreme vessels, and not adapted to acute inflammations. Much employed in croup,

but often injures by its stimulant virtues. Useful in chronic inflammations of the pulmonary mucous membrane, and in those which form the pathological cause of dropsy. In full doses it often purges. In excessive doses it acts as a narcotico-acrid poison.

Dose.— grs. v to xv.

(a.) Oxymel of squill.

(b.) Vinegar of squill.

(c.) Syrup of squill.

Dose.— Of either, ʒj to ʒiv.

Dose.— At three years, ʒss.

7. BLOOD ROOT. *Sanguinaria canadensis*. The root. Throughout the United States.

An acrid, narcotic, stimulant emetic; having no peculiar advantages, but much in the way of objection, as an emetic. It is placed in this rank in accordance with the more favorable opinion of some judicious physicians. It is more useful in its small alterative doses. Employed in catarrh, whooping cough, croup, and typhoid pneumonia.

Dose.— grs. x to xx.

(a.) Sanguinarin; an alkaline principle; not used.

(b.) Tincture of sanguinarin.

8. THOROUGHWORT, OR BONESET. *Eupatorium perfoliatum*. The herb.

(See *Cathartics*, No. 27, p. 44.)

9. SULPHATE OF COPPER. Cupri sulphas. *Composition.* — Oxide of copper, 1 eq., sulphuric acid, 1 eq., water, 5 eq.

This substance has been greatly abused as an emetic. It is probably only suited to cases of poisoning by opium, in which the sulphates of zinc and ipecacuanha are much preferable. The sulphate of copper is apt to increase the effects of a poison.

Dose. — grs. ij to x.

R. C, 5. R. C, 2.

10. FEVER-ROOT, WILD IPECACUANHA. — Triosteum perfoliatum. Bark of root. United States.

Emetic and cathartic. Non-stimulant. Probably more valuable than is reputed. Safe.

Dose. — ℥j to ℥ij.

Usefully combined with calomel in the treatment of fevers and inflammations. (See *Cathartics*, No. 27½.)

11. COMMON SALT. Sodii chloridum. *Composition.* — Sodium, 1 eq., chlorine, 1 eq.

A very mild emetic.

Dose. — ℥ss to ℥j.

12. DOG'S BANE. Apocynum androsæmifolium. The root. The United States.

A mild emetic in a dose of thirty grains, but without reputation as an alterative. The dried root should have been recently reduced to powder.

13. INDIAN TOBACCO, EMETIC WEED. *Lobelia inflata*. The herb. Throughout the United States.

A quick and violent emetic, attended with distressing nausea, great prostration, copious sweating, and occasionally with purging. A hazardous remedy, and only adapted, as an emetic, to spasmodic asthma, and to facilitate the reduction of strangulated hernia, for which last purpose it is as useful and safer than tobacco.

Dose. — grs. x to xx.

(a.) Tincture of lobelia.

Dose. — 3j to 3 ss.

(See *Expectorants*.)

14. BUCK-BEAN, MARSH TREFOIL. *Menyanthes trifoliata*. The leaves and root.

Dose. — 3j to 3 iss.

(See *Cathartics*, No. 37, p. 48.)

15. LARGE FLOURING SPURGE. *Euphorbia corollata*. Bark of root. United States.

Emetic and cathartic; but uncertain, though apt to be severe. Wholly inferior to ipecacuanha, gillenia, and tartarized antimony.

Dose. — As an emetic, grs. x to xx; as a cathartic, grs. v to x.

16. SPURGE IPECACUANHA. *Euphorbia ipecacuanha*. Bark of root. United States.

Very similar in properties to the *E. corollata*.

Dose. — grs. x to xx.

17. AMERICAN POKE ROOT. *Phytolacca decandra*.
The root. The United States.

An uncertain emetico-cathartic; dilatory but persevering. No special alterative virtues, and nothing to recommend it. (See *Alteratives* for rheumatism.)

Dose. — grs. x to xx.

18. INDIAN HEMP. *Apocynum cannabinum*.
The root.

Violent emetico-cathartic. Employed in dropsy.

Dose. — grs. xv to xxx.

(See *Cathartics*, No. 44, p. 50.)

19. YELLOW SUBSULPHATE OF MERCURY, TURPETH MINERAL. *Hydrargyri subsulphas flavus*. *Composition.* — Binoxide of mercury, 1 eq., sulphuric acid, 1 eq.

A violent and useless emetic.

Dose. — grs. ij to v.

20. ASARABACCA. *Asarum Europæum*. The leaves and root. Europe.

An acrid, violent emetico-cathartic.

Dose. — 3ss to 3j.

21. WHITE HELLEBORE. *Veratrum album*. Bark of root.

An acrid, violent emetico-cathartic.

Dose. — gr. j to vi.

(See *Cathartics*, No. 39, p. 49.)

22. DOG-TOOTH VIOLET. *Erythronium Americanum*. United States.

Probably a mild emetic in doses of xxv to xl grains. Little known of it except that it loses its properties on drying.

23. LEATHER WOOD, *Dirca palustris*. The bark. United States.

An acrid, violent emetico-cathartic.

Dose. — grs. vj to viij. (See *Vesicants*.)

24. TOBACCO. *Nicotiana tabacum*. The leaves America. Other cultivated species, particularly the *N. rustica*, *N. repanda*, *N. persica*.

Too dangerous to be ever employed as an emetic. An infusion, wine, and tincture of the leaves are employed. As an emetic, from 5 to 20 grains of snuff is a dose; or half a fluid ounce of the wine or tincture. Of an infusion of ʒj of tobacco in 1 pound of boiling water, from ʒj to ʒss is a dose. No more than 15 or 20 grains in 8 or 16 ounces of water should ever be given as an enema. Thirty grains have proved fatal. (See *Alteratives*, *Cutaneous Applications*, and *Anthelmintics*.)

25. ACETATE OF COPPER. *Cupri acetat.*

A dangerous emetic. Is retained in the pharmacopœias, but it is only necessary to say, that it is never employed internally.

Dose. — gr. j to grs ij.

ORDER IV.

ALTERNATIVES.

“These are neither stimulants nor contra-stimulants, merely. They produce some unnatural or morbid change in the state of the organic textures, and consequently occasion alteration of function. This class includes nearly the whole of the articles comprising our *materia medica*.” — *Pereira's Elements of Materia Medica*, 1839.

All remedies produce their essential effects by altering the existing condition of the vital properties, from whence result all the changes of function and all the changes of a physical or vital nature that are obvious to the senses. It is convenient, however, to distribute remedies into groups, according to some uniform, prominent, and important result, which certain groups are capable of producing.

I have included under the denomination of alternatives all such remedies as, in certain doses and at certain intervals of exhibition, interrupt the progress of disease without any prominent demonstration. The changes which are thus induced are generally gradual, and may or may not be, sooner or later, attended by some evacuation, as with the group of cathartics. Thus, a profuse discharge of saliva may be established by minute doses of calomel, or an

equally profuse secretion of bile and consequent diarrhœa; and antimony and ipecacuanha may occasion, in their small alterative doses, copious perspiration. It is, therefore, an unsound definition, that "Alteratives are medicines which change the functions of the body and restore them to a healthy state without producing any sensible evacuation." — *Stegall's Manual for Students Preparing for Examination*, p. 245; 1838. This construction would exclude the mercurial and other remedies from the group of alteratives, and should especially bring the tonics under this denomination. This, too, is their legitimate place; but since, like emetics, cathartics, expectorants, astringents, etc., they generally occasion one prominent effect, it is practically useful to arrange them under a denomination which is expressive of that effect. (See *Preface*.)

DISTRIBUTION OF ALTERATIVES.

- (A.) General Alteratives, adapted to inflammatory and febrile diseases in a general sense.
- (B.) Limited Alteratives.

Subdivisions.

1. Adapted to scrofulous and some other specific chronic inflammations.
2. Adapted to syphilis and certain other specific chronic inflammations.

3. Adapted to syphilis complicated with scrofula.
4. Adapted to rheumatic inflammation and gout.
5. Adapted to intermittent fever and intermittent inflammation.
6. Adapted to obstinate and chronic cutaneous diseases.

(A.) GENERAL ALTERATIVES,

Adapted to inflammatory and febrile diseases in a general sense.

GROUPS,

In the order of their relative therapeutic value.

MERCURIAL ALTERATIVES,*

In the order of their relative therapeutic value.

1. CALOMEL, SUBMURIATE OF MERCURY. Hydrargyri chloridum, hydrargyri submurias.

Dose.—gr. $\frac{1}{8}$ to grs. ij., repeated once in two to twelve or more hours.

Especially adapted to chronic inflammation, common or specific; less useful in acute inflammation, particularly the specific forms, but better suited than any other mercurial preparation. More useful in continued fever than in other types of

* Called *Sialogogues*; as are also *horse-radish*, *ginger*, etc. See Pereira's *Materia Medica*, pp. 87, 440.

fever. A valuable alterative in intestinal diseases attended by frequent watery discharges, especially of children, in doses of $\frac{1}{16}$ to $\frac{1}{4}$ of a grain, once in four to twelve hours, with or without opium or Dover's powder. Much less useful if the discharges be frequent and slimy. Effects cumulative. A poison to some constitutions, when given in alterative doses, and sometimes in large doses.

℞. C. 13. ℞. C. 18. ℞. C. 21, 22. ℞. C. order 5, 3, 7. ℞. C. order 7, 5, 17. ℞. C. 2. ℞. C. class 4, order 1, 8, or 19, or 8 and 19, or 8 and order 2, 5. ℞. C. order 8, sub. 10, 13, class 10, 3 or 8.

2. BLUE PILL. Hydrargyri pilula.

Dose.—gr. $\frac{1}{8}$ to grs. v.

Three grains of the pill contain one grain of mercury.

Adapted to the same conditions as calomel, and employed when a milder preparation is wanted. Often preferable in chronic diseases; less so in acute. Formulæ the same as for calomel. The following is an excellent alterative for habitual constipation: ℞. H. gr. $\frac{1}{8}$ to gr. 1; aloes, $\frac{1}{4}$ to grs. ij; mastic, gr. $\frac{1}{2}$ M. ft. pl. Generally the smallest proportions. One, night and morning. It soon establishes the secretion of bile, and so modifies the vital condition of the intestines as to enable the patient gradually to discontinue the medicine. It may be necessary, to promote the effect at first, to aid the pill by an enema

or castor oil. Half a grain or a grain of ipecacuanha, or one or two grains of the extract hyosciamus or of cicuta, may be sometimes advantageously added. This formula is stated to exemplify the action of this agent and the substances combined.

3. MERCURY WITH CHALK. Hydrargyrum cum creta. Prepared by rubbing quicksilver with chalk.

Consists mainly of chalk and mercury in its metallic state. Eight grains contain three of mercury and five of chalk. Very mild and certain. Gently laxative in a full dose, and rather less speedy in its constitutional effects than blue pill when given in small repeated doses. Much employed in the syphilis of infants, and in their strumous affections, especially of the lymphatic glands, but undoubtedly inferior to iodine as an alterative in these cases. *Full dose.*—grs. v to 3 ss. *Alterative dose.*—gr. 1 to grs. x, twice a day, or oftener.

R. H. C. 21 or 22. R. H. C. 24, Other formulæ of No. 1, or of order 2, 1.

4. MERCURY WITH MAGNESIA. Hydrargyrum cum magnesia.

Very similar to the hydrargyrum cum creta; perhaps rather milder. Five grains contain one grain of quicksilver; said to be in a state of minute division. *Doses.*—The same as with No. 3.

5. MERCURIAL OINTMENT. Unguentum hydrargyri.
Mercury and lard, equal weights.

The mercury is supposed by some to be merely finely divided, by others to be oxydized. May be separated without a de-oxydizing process. Its constitutional action is said to be very certain when swallowed, but its use is mainly limited to the skin. When thus employed, it also acts with great certainty, especially if applied to a vesicated surface. Its great advantages arise from its substitution, in part or entire, for the internal administration of mercurials where they are contra-indicated by existing states of the stomach or bowels. Is also advantageously applied in connection with the internal use of mercurials, and may be employed in all the cases to which the foregoing preparations are adapted. *Dose, internally.* — gr. 1 to v, made into pills. May form all the combinations with other substances which are appropriate to the blue pill. *Externally,* ʒss every hour or two for speedy salivation, or ʒss to ʒj, night and morning, in syphilis, etc. (See *Local Applications.*)

6. BICIANIDE OF MERCURY. Hydrargyri bicianidum, or H. cyanuretum.

Composed of 1 eq. of mercury and 2 eq. of cyanogen. Rather milder than the bichloride of mercury and less irritating to the stomach and intestines.

Employed in syphilis and other chronic inflammatory affections.

Given in pills and aqueous solution. *Dose*.—One sixteenth of a grain, gradually increased to half a grain. (See B. *Subdivision* 2, 5.)

7. BICHLORIDE OF MERCURY, CORROSIVE SUBLIMATE.
Hydrargyri bichloridam, hydrargyri murias.

Composed of mercury, 1 eq., chlorine, 2 eq. Very energetic. Poisonous in small quantities, but safe in proper doses, though apt to nauseate, gripe, and purge. Perhaps less likely to salivate than most other active preparations, and manifests useful effects without exerting any strongly marked influence upon the system, and is only adapted to some forms of chronic inflammation, especially venereal affections; also to chronic rheumatism, cutaneous diseases, diseases of the bones, in combination with sarsaparilla, antimony, tincture of cinchona, etc. *Dose*.—gr. $\frac{1}{12}$ to gr. $\frac{1}{4}$ in water, or spirit, or pill, twice to four times a day.

℞. H. grs. ij distilled water, ℥iv M. *Dose*.—Half to one teaspoonful, increased.

8. ACETATE OF MERCURY. Hydrargyri acetas.
Composed of protoxide of mercury, 1 eq., acetic acid, 1 eq.

A mild preparation, but little employed. *Dose*.—gr. 1 to grs. v.

9. BLACK SULPHURET OF MERCURY. Hydrargyrum sulphuretum cum sulphure.

One of the mildest of the mercurials; almost inert.
Dose. — gr. v to 3j.

10. YELLOW SUBSULPHATE OF MERCURY, TURPETH MINERAL. Hydrargyri subsulphas flavus.

An acrid preparation, producing vomiting, purging, and salivation, in small quantities. *Dose.* — gr. $\frac{1}{4}$ to gr. j.

11. RED OXIDE OF MERCURY. Hydrargyri binoxydum.

An acrid preparation; not much in use internally.
Dose. — gr. $\frac{1}{8}$ to gr. 1, with opium.

12. CALCINED MERCURY. Hydrargyri oxydum rubrum.

Chemically the same as the preceding, though rather different in appearance. Its virtues the same.

ANTIMONIAL ALTERATIVES,*

In the order of their relative value.

13. TARTARIZED ANTIMONY, EMETIC TARTAR. Potassæ antimonio-tartras, antimonii tartras.

Ranks in value after blue pill. Others would

* Called *Sudorifics*, as are also *ipecacuanha*, *herb teas*, etc.

place it as the first of the alteratives, from its almost universal adaptation to fever and acute inflammations. But, though far more unreservedly applicable to these affections than the mercurials, antimony will not, in like manner, suddenly arrest them, and though succeeding where the mercurials may fail, the latter as often surpass the antimonials. Again, the mercurials exert a profound influence upon most chronic inflammations, of which the antimonials are far less capable.

Adapted to the hot stage of all fevers, and wherever constitutional excitement attends local inflammation, if not contra-indicated by irritable states of the stomach and intestines. Depresses the circulation, and establishes secretions in the skin, liver, and various other organs. Water is the best vehicle, and the solution should be extemporaneously made. *Dose*.—gr. $\frac{1}{16}$ to grs. ij, once in one to four hours, gradually increased. See *Emetics*, p. 54, and B. *Subdivision* 4, 1.

℞. A. t. 1, B. sub. 4, 2. ℞. A. t. 1. ℞. A. t. 18. ℞. A. t. 24. ℞. A. t. sub. 5, 1. ℞. A. t. class 4, order 1, 11. ℞. A. t. class 4, order 1, 8, or 16, or 19.

(a.) Wine of antimony. One ounce contains two grains of the salt.

14. COMPOUND POWDER OF ANTIMONY, JAMES'S POWDER. Pulvis Antimonialis.

Wholly superseded by tartarized antimony. Very variable in strength. *Dose*.—grs. ij to grs. x, once in 2 to 4 hours.

15. KERMES MINERAL, TRIUMPHAL CHARIOT OF ANTIMONY. Antimonii oxysulphuretum, or A. sulphuretum præcipitatum.

Uncertain; but all its effects like tartarized antimony, to which it is greatly inferior. *Dose*.—gr. j to grs. iij, once in 3 to 12 hours. As an emetic, grs. v to grs. xv.

Usually combined with calomel and guaiacum, making the nostrum known as Plummer's pill.

16 PREPARED SULPHURET OF ANTIMONY. Antimonii sulphuretum præparatum.

Uncertain. Now confined to veterinary practice.

17. GLASS OF ANTIMONY. Antimonii vitrum. Active; uncertain; out of use.

VEGETABLE ALTERNATIVES,

In the order of their relative value.

18. IPECACUANHA. Cephalis ipecacuanha.

Should rank next after tartarized antimony. Is adapted to all the inflammatory affections to which tartarized antimony is suited, but is less efficient in most, though far more so in a few, as in dysentery. Is much inferior to antimony in idiopathic fever.

May be employed in irritable states of the alimentary canal, where antimony cannot. Its advantages in some cases of indigestion have procured for it a place amongst the tonics; but its operation involves different principles. *Dose.*—gr. $\frac{1}{4}$ to gr. j, once in 4 to 6 hours.

℞. I. 1. ℞. I. 1, 13. ℞. I. 2, 22. ℞. I. 24. ℞. I. 21. ℞. I. 25. ℞. I. class 2, 2.^e or other tonics.

19. AMERICAN IPECACUANHA. *Gillenia trifoliata*.

Similar, but inferior, to ipecacuanha. *Dose.*—gr. j to grs ij, once in 4 to 6 hours.

Formulæ same as 18.

20. SOUTHERN IPECACUANHA.—*Gillenia stipulacea*.

Properties the same as those of *G. trifoliata*.

Dose.—The same.

21. RHUBARB. *Rheum palmatum*.

Adapted to indolent inflammations complicated with indigestion and deficient secretion of bile.

Dose.—gr. j to grs. v, morning and evening.

℞. R. 3, or 22. ℞. R. 2, 18. ℞. R. 2 18, 22. ℞. R. 18.

This and the two following substances will probably appear to many not to belong to my denomination of alteratives.

22. ALOES. *Aloe Socotrina*.

Adapted to chronic inflammations complicated

with deficient action of the liver and intestines, and adapted to some chronic hepatic congestions.

Dose.—gr $\frac{1}{4}$ to gr. j, morning and evening, combined with 2 or 21.

(See *formulae* 2, and 21.)

23. CASTOR OIL. *Oleum ricini*.

Same as 22. *Dose*—3ss to 3j, every evening.

24. COMPOUND POWDER OF IPECACUANHA, OR DOVER'S POWDER. *Pulvis ipecacuanhæ compositus*. Ten grains contain *one* of opium and *one* of ipecacuanha.

Adapted to some conditions of inflammation and fever after bloodletting and cathartics, especially pneumonia and rheumatism. Often useful in allaying intestinal irritation. It is principally useful for the same purposes as opium, and, whatever may be its reputation as a "sudorific," it is not an agent upon which we may depend for any important curative influences. Where this confidence is reposed in its virtues it is apt to be oftener injurious than beneficial. It should never be employed where there is any cerebral disease. *Dose*.—gr. 1 to grs. x.

25. BLOOD ROOT. *Sanguinaria canadensis*.

Esteemed by many in typhoid pneumonia, rheumatism, catarrh, whooping cough, jaundice, etc. *Dose*.—

gr. j to grs. iv, once in 4 to 6 or 8 hours. (See *Emetics*, 7, p. 57.)

(B.) LIMITED ANTIPHLOGISTIC ALTERNATIVES.

SUBDIVISION I.

Adapted to scrofulous and some other specific chronic inflammations. In the order of their value.

PREPARATIONS OF IODINE,

In the order of their value.

1. IODINE. Iodinium.

A simple elementary substance. Discovered in 1811. Found native in silver, zinc, and lead ores, in sea water, in many mineral waters. In animals, the genera *Spongia*, *Doris*, *Gorgonia*, *Sepia*, *Venus*, and *oil of cod's liver*; in vegetables, the family *Algæ*, especially many *Fuci*. Also in phænogamous plants, as a species of *Agave*, *Salsola*, and of *Zostera*. It is principally obtained from the *kelp* of the *Fucoid* plants. Iodine is a crystallizable rhombic octahedron; but generally occurs in soft micaceous scales, of a greyish black, metallic lustre, and acrid taste. Odor strong and like chlorine, volatilizes at 347 degrees Fahrenheit, or with water at 212 degrees. Vapor, a fine violet, whence the name, *ιωδης*, (iodes,) *violet colored*. Stains the cuticle and irritates the skin. Not often adulterated.

Iodine may remove disease without any other sensible manifestation of its action, although continued for a great length of time. Various bad

effects have been attributed to iodine by different observers, but those results appear to have been generally as different as the observers; so that there is much reason to believe that they may have been commonly owing to other causes, especially as many very able physicians, who have employed this medicine extensively, have rarely witnessed much inconvenience from it. Like all other agents, however, which possess active virtues, its abuse or improper use will, of course, lead to injurious results. But there are certainly many articles far more capable of mischief, which are employed with comparatively little reserve, but which it would be well to surround with the precautions which have been invented for iodine. Different constitutions appear to be susceptible in different degrees of its effects, as witnessed of the mercurial preparations. If it be not adapted to any given case, the symptoms will admonish the practitioner in due time to abandon its use; or its effects, in other cases, will enable him to moderate or otherwise vary its exhibition.

Iodine and its preparations appear to be only adapted to chronic inflammations, unattended by much constitutional excitement. They should not be exhibited in irritable states of the stomach and intestines.

Like the "general" mercurial alteratives, all the iodines arranged here are capable of analogous effects — differing, indeed, in this respect, less than the

mercurials, and mostly so in the intensity of their operation. They are said to be absorbed; and this is undoubtedly true, in a limited sense, though some able observers have failed to detect them in the blood. But this is in no respect a proof that the absorption is sufficient to produce any effect, whilst all physiology and all therapeutical analogies leave no doubt that the primary action is exerted upon the gastro-intestinal mucous membrane, and thence upon other parts through the cerebro-spinal-ganglionic systems. (See *Med. and Physiolog. Com.*, vol. i., pp. 527, 474-512, 568-574, 441-447, 461-470, 646-661, etc., and my *Introductory Address*, pp. 7, 8, 1841.)

Iodine and its preparations are the most efficient remedies for scrofula, in an abstract sense; which is more obviously true of bronchocele. They have been employed with success in some cases of chronic enlargements and indurations of the liver and spleen after depletion, in Europe and in the United States. They are not suited to pulmonary tubercles or pulmonary phthisis. They have been employed successfully in some cases of chronic dropsy, but much will depend upon its complications. Ovarian, and other internal tumors, chronic mammary tumor, indurated prostate, parotid, and lymphatic glands, chronic indurated enlargements of the uterus, incontinence of urine, leucorrhæa, chronic discharges from the nostrils, gout, secondary syphilis, paralysis,

chorea, chronic rheumatism, chronic cutaneous diseases, phagedenic ulcers, amenorrhæa, and impotence, have yielded to a judicious use of iodine or its simple combinations.

Some rather active inflammations, occurring in scrofulous constitutions, not affecting important organs, as of the conjunctiva, or eyelids, or ears, or skin, etc., yield remarkably to the alterative action of iodine. But there must be an absence of much general sympathetic excitement, which, in all cases, should be first subdued by the direct antiphlogistic means.

The action of iodine is generally slow, especially in chronic enlargements, often not manifesting its salutary effects till the expiration of several weeks.

The internal use of iodine may be commonly promoted by its external application. (See *Local Applications*.)

℞. Iodin. grs. xxx, alcohol. ℥j. M. *Dose*.—Ten to twenty drops twice a day, gradually increased to forty or fifty.

℞. Iodin. grs. xxx, Æther. sulphuric. ℥j. M. *Dose*.—As above.

℞. I, with quinia or decoction of cinchona.

2. IODIDE OF POTASSIUM, HYDRIODATE OF POTASS. Potassii iodidum. *Composition*.—Iodinium, 1 eq.; potassium, 1 eq. Often greatly adulterated with carbonate of potash.

Less energetic than iodine, but similar in its alterative effects.

℞. Potassii iodidi, grs. xxx, aquæ destillatæ, ℥j
M. *Dose.* — 10 to 30 drops three times a day, gradually increased to 40, 60, or more.

3. IODURETTED IODIDE OF POTASSIUM. Potassii iodidum ioduretum.

Sometimes preferable to 1 or 2.

℞. Iodin. grs. x potass. iodid. grs. xx, aquæ destillat., ℥j. *Dose.* — 10 to 20 drops, gradually increased.

℞. Iodin. grs. x, potass. iodid. grs. xx, spt. rectific., ℥j, M. *Dose.* — Same as above.

N. B. Iodine, or the foregoing combinations, may be variously united with the extract of hyocyanus, or opium, where pain or general irritability exist, or with infusions of the bitter tonics.

4. IODIDE OF QUININE. Quiniæ iodidum.

℞. Quin. iodid. grs. xxx., alcohol. ℥j, M. *Dose.* — Same as above.

Employed in scrofula, where quinine is indicated.

℞. Quiniæ iodid. grs. xxx, quiniæ sulph., grs. iij, alcohol, ℥j. *Dose.* — Same as above.

5. HYDRIODIC ACID. Acidum hydriodicum.

Liable to decomposition. *Dose.* — Of Dr. Bu-

chanan's preparation, 3ss, two or three times a day, gradually increased.

6. IODIDE OF IRON. *Ferri iodidum.*

Sometimes useful in scrofula, and in some indurated tumors accompanied by simple indigestion, to which iron is adapted.

R. *Ferri iodid.* ℥iv, aquæ destillat., ℥j, M.

Dose. — 15 to 20 drops, two or three times a day, gradually increased to 40 or 60.

Wine or spirit may be substituted for the water.

7. IODIDE OF STARCH. *Amyli iodidum.*

A very mild preparation. *Dose.* — grs. xxx, two or three times daily, increased to 3iij or 3iv.

8. IODINE MINERAL WATERS. *Aquæ minerales cum iodinio.*

Iodine occurs in a water at Saratoga, and in many springs in Great Britain, as at Leamington, Bognor, Nantwich. But the quantities are small. Also, in Germany, Bavaria, and South America.

9. IODIDE OF BARYUM. *Barii iodidum.*

An acrid agent. *Dose.* — gr. $\frac{1}{10}$, three times a day, cautiously increased to one or two grains.

10. HYDRIODATE OF BARYTES. *Barii iodidi hydriodas.*

Very similar to the iodide of baryum.

11. BLADDER WRACK. *Fucus vesiculosus*.

Incinerated in a crucible ; called *Æthiops vegetabilis*, or vegetable ethiops. *Dose*. — grs. xv to ʒij, in syrup.

12. BURNT SPONGE. *Spongia usta*.

Like the fucus, it owes its virtues to the presence of iodine and bromine. *Dose*. — ʒj to ʒiv.

13. IODIDE OF LEAD. *Plumbi iodidum*.

Dose. — gr. j, gradually increased to 5 or 10 grains.

13½ COD'S LIVER OIL. *Oleum jecinoris aselli*.

Probably owes any virtues it may possess to the presence of a little iodine and bromine. In high repute with the Germans in scrofula, rickets, rheumatism, and chronic cutaneous diseases. Has no apparent physiological effects, and the German physicians say that its therapeutical influences are very slowly developed. Thirty-six pounds have been taken by an individual within the space of two years and a half. *Dose*. — ʒss to ʒij.

PREPARATIONS OF BROMINIUM,

In the order of their value.

Bromine was discovered by Balard, 1826. A simple elementary substance. Name derived from *βρωμος*, (*bromos*), a strong rank odor. Always com-

bined. Found in *cadmium*, *zinc*, sea water, many mineral waters, especially, the brine in Europe and America. (See *order 2*, 24.) In organized bodies, sea weeds of the Mediterranean, etc.; in the officinal sponge, the testaceous molluscos *junthina violacea*. Generally procured from *bittern*, or from the mother waters of *kelp*. A blackish red, very volatile fluid. At —4 degrees Fahrenheit it becomes a yellowish brown, crystalline, brittle solid. Boils at 116½ degrees Fahrenheit. Odor, something like chlorine, taste intense. Acts energetically on organic substances, as wood, etc., and destroys the animal texture..

Much more irritating to the stomach than iodine. Its preparations exert the same effects as iodine, and are therefore adapted to the same diseases; but iodine is the safer and probably more curative remedy. The bromides, however, should probably rank next after the iodide of quinine.

14. BROMIDE OF POTASSIUM. Potassii bromidum.
Composition. — Bromine, 1 eq., potassium, 1 eq. Crystallizes in whitish transparent cubes. Inodorous. Taste pungent and like common salt. Very soluble in water. Adapted to bronchocele and scrofula, internally and externally; also, like iodine, to chronic enlarged tumors, spleen, etc.

Less energetic than bromine. R. Potass. bromid., grs. xxxij. Aquæ destillat. ℥j, M. *Dose*. — Half a

drachm to two drachms, three or four times a day. May be given in 4 to 8 grain doses, in the form of pills.

15. BROMIDE OF IRON. Ferri bromidum.

Brick-red color. Dissolves freely in water; deliquescent in air, styptic to taste. Adapted as the preceding.

℞. Ferri bromid. grs. xxx, aquæ destillat. ℥j. M. *Dose.* — 15 to 30 drops, twice or thrice a day. May be given in the form of pills, in a dose of one or two grains.

16. BROMINE. Brominium. The simple substance.

See remarks, p. 80.

Its activity suits it to some cases in which the preceding preparations, or those of iodine, fail.

℞. Bromin. ℥iv. aquæ destillat. ℥j. *Dose.* — 6 to 12 drops, two or three times a day, gradually increased and diluted with water.

17. BROMIDE MINERAL WATERS. Aquæ minerales cum brominio.

OTHER PREPARATIONS OF BARIUM.

18. MURIATE OF BARYTES. Barii chloridum. *Composition.* — Barium, 1 eq., chlorine, 1 eq., water, 2 eq.

Crystallizes; taste bitter. Poisonous in over doses like arsenic; in proper, cautious quantities, no sensible effects at first; often becomes laxative; improves the appetite. Principally adapted to scrofula, but has been successfully employed in the other affections to which iodine and bromine are better adapted. May be given in active scrofulous inflammation of the eyes, etc.

℞. Barii chlorid. grs. xxx aquæ destillat. ℥j.

Dose.—6 drops, cautiously increased till some nausea or giddiness is produced. Decomposed by common water and other salts.

OTHER SUBSTANCES,

In the order of their relative value.

19. SARSAPARILLA. *Smilax sarsaparilla*. The root. Several other species. Mexico, Guatemala, Magdalena river; Brazil, Jamaica. Often inert from age, or inferior species. The Brazilian and Honduras commonly the best. Should leave an acrid taste after being chewed. Has had a vacillating reputation. Renowned and exploded in secondary syphilis, and now restored again. Consumption large at present. Adapted to that affection, to scrofula, mercurial diseases, and to chronic cutaneous affections. It has also the special recommendation, as is said, of being "employed in other depraved conditions of the general health to which the physician may find it

difficult to apply a name." — *Wood and Baché's Dispensatory*, p. 609. "Its mode of action," as also said, "is less evident than its ultimate effects." — *Ibid.* But is not this equally true, and no more so, of all other remedies? "In this ignorance of its precise *modus operandi*, we may call it an *alterative*." — *Ibid.* But is not this equally true of all other absolute agents in respect to their effects upon disease, whether they produce evacuations or not?

Lawrence, Müller, and Pereira concur, in the above opinion. Pereira agrees with Müller, that "the most plausible explanation of the agency of alterative medicines is that offered by Müller, which assumes that these remedies cause changes in the nutritive fluids, the chyle and blood, and thereby produce slight chemical alterations in organs morbidly changed in composition," and that sarsaparilla comes under this rule. This doctrine may be sustained by the authority of man, but it is not by nature.

Pereira commends sarsaparilla as having "the great advantage over many other alteratives and tonics, that although it may fail in doing good, it never does any harm, beyond that of now and then causing slight disorder of the stomach." — *Mat. Med.*, p. 669. Is it as curative, then, as imagined by our author and others, even upon the chemical hypothesis? If not, the obscurity clears up as to the *modus operandi*. Indeed, Pereira states, that "many practitioners have doubted or denied its

remedial activity on what, it must be admitted, are *very plausible grounds*." — *Ibid*. This is quoted as a saving clause for physiology.

℞. Sarsaparilla, ℥iv., boiled in two quarts of water to one. *Dose*. — 1 or 2 gills, three or four times a day. Far preferable to the syrup, which is liable to derange the stomach. May be employed simultaneously with the foregoing preparations.

(a.) Extract of sarsaparilla, when well prepared, possesses much of the virtues of the root. *Dose*. — 3ss to 3ij.

20. MURIATE OF LIME. Calcii chloridum. *Composition*. — Calcium, 1 eq., chlorine, 1 eq.

Perhaps from the affinity between the virtues of this substance and the chloride of baryta, it should follow that remedy. Safer than that, though probably less efficient. Employed with much success in scrofula, sometimes useful in pulmonary phthisis, even when attended by hectic fever. Also, in bronchocele, paralysis, chronic gouty affections.

℞. Calcii chlorid. 3ij. Aquæ destillat. ℥j. *M. Dose*. — 30 to 40 drops, twice or thrice a day, gradually increased, till slight nausea is produced.

℞. C. c. 26.

21. CORROSIVE SUBLIMATE. Hydrargyri bichloridum.

Adapted to some indolent cases of scrofula, especially in combination with antimony, sarsaparilla, or tincture of cinchona. *Dose*, minute. (See A. 7, p. 68.)

22. BISULPHURET OF MERCURY. Hydrargyri sulphuretum cum sulphure.

Very mild; and sometimes employed in the scrofulous glandular affections of children.

Dose.—grs. v. to 3j.

23. CHLORIDE OF ZINC. Zinci chloridum.

Composition.—Zinc, 1 eq., chlorine, 1 eq. Whitish, soft, soluble in water, alcohol, or æther. Employed in scrofula, chorea, epilepsy. In large doses, a caustic poison.

℞. Zinci chlorid. 3j, spirit. æther. sulph., 3j. M. *Dose*.—5 to 10 drops, twice a day.

24. TINCTURE OF MURIATE OF IRON. Tinctura ferri sesqui-chloridi.

Tonic; and adapted to indolent cases of scrofula attended by indigestion, without constitutional excitement. *Dose*.—10 to 30 drops, twice or three times a day, gradually increased to one or two drachms.

℞. Tfs. 18 or 20.

25. PIPISSEWA. Chimaphilla umbellata. United States, Europe, Asia.

The herb has considerable reputation.

R. Pipsis. ℥j, water, ℥vss. M. boil to ℥vj.

Dose.—℥j, to ℥ij.

(a.) Extract of chimaphilla. Dose.—grs. x to grs. xx, twice or thrice, daily. (See *Index*.)

26. CICUTA. Conium maculatum. The extract.

Employed in painful scrofulous, and other chronic tumors, indurated liver, bronchocele, scirrhus, and chronic cutaneous diseases. Dose.—grs. ij, morning and evening, gradually increased till slight vertigo or nausea arises. Dose of powdered leaves, the same. (See *Index*.)

27. THE PREPARATIONS OF GOLD.

(See next *Subdivision*.)

28. GUAIACUM. Guaiacum officinale.

(See B. *Subdivision* 4, 2. p. 98.)

SUBDIVISION II.

Adapted to syphilis, and certain other chronic inflammations. In the order of their relative value.

PREPARATIONS OF MERCURY,

In the order of their value.

1. CALOMEL. Hydrargyri chloridum, or sub-murias hydrargyri.

(See A, 1. p. 64.)

2. BLUE PILL. Hydrargyri pilula.

(See A, 2. p. 64.)

3. IODIDE OF MERCURY. Hydrargyri iodidum.

Greenish-yellow. Insoluble in water or alcohol.

Composition.—Mercury, 1 eq., iodine, 1 eq. Thought to resemble calomel. Given to children as well as adults.

℞. Hydrarg. iodid., 3j, rosæ confectio. 3ij. M. Divid. in pil. No. lx. *Dose.*—1 to 3, or 4, morning and evening.

4. BROMIDE OF MERCURY. Hydrargyri bromidum.

Purges moderately in 4 or 5 grains. Rather milder than calomel in its constitutional effects, which it resembles. *Composition.*—Hydrarg. 1 eq., brominium, 1 eq. ℞. Hydrarg. bromid. grs. xvj. æther. sulphuric. 3j. M. *Dose.*—10 to 20 drops, morning and evening, gradually increased to 60 or 100.

5. BICIANIDE OF MERCURY, CYANURET OF MERCURY. Hydrargyri bicianidum.

Crystals, heavy, opaque, white or transparent; inodorous, taste strongly metallic; soluble in water, very little in alcohol.

An active agent, and poisons in large doses, though less than corrosive sublimate. Greatly ex-

toll'd by some in syphilis, and beyond other mercurials.

R. Hydrarg. bicianid. grs. viij, aquæ destillat. ʒj.
M. *Dose*. — 5 drops, three or four times a day,
gradually increased to 30 or 40 drops.

R. H. b. grs. iv, micæ panis, ʒij. M. Divid.
in pil. No. lx. *Dose*. — 1, gradually increased to
16 or 20, or the proportion of the mercurial in-
creased. Opium, morphia, or hyocismus, etc.,
may be added. (See A, 6. p. 67.)

6. CORROSIVE SUBLIMATE. Hydrargyri bichlori-
dum.

(See A, 7. p. 68.)

7. BINIODIDE OF MERCURY. Hydrargyri biniodi-
dum.

Composition. — Mercury, 1 eq., iodine, 2 eq.
Resembles corrosive sublimate, and adapted to
syphilis, complicated with scrofula. Vermilion
colored, changeable by heat to yellow, etc.

R. Hydrarg. biniodid. grs. viij, æther. sulphuric.
ʒj. M. *Dose*. — 4 drops, two or three times a day,
gradually increased to 15 or 20 drops. Strong
alcohol will dissolve it; insoluble in water.

8. IODO-HYDRARGYRATE OF POTASSIUM. Potassii
iodo-hydrargyras,

Thought to be less likely to salivate than the other combinations of mercury and iodine. The following is the most convenient preparation.

℞. Hydrarg. biniodid. grs. iv, potassii ioduret. grs. iv, aquæ destillat. ℥j. M. *Dose*.—Ten to twenty drops, gradually increased, two or three times a day.

9. DEUTO-BROMIDE OF MERCURY. Hydrargyri deuto-bromidum.

Resembles corrosive sublimate, but is more energetic, nauseating, purgative, and griping.

℞. Hydrarg. deuto-bromid. grs. viij, æther. sulphuric. ℥j. M. *Dose*.—Ten to twenty drops, after eating, once or twice a day.

10. OTHER PREPARATIONS OF MERCURY. Also, SIMPLE PREPARATIONS OF IODINE.

(See A, 3, 4, 8, 9, 10, 12.)

PREPARATIONS OF GOLD,

In the order of their value.

All the preparations of gold are inferior to all the best of the mercurials, unless in some rather rare cases. Like mercury, gold will produce its effects in its metallic state. Does it act by absorption? Has it been "found in the blood and secretions?" Has it been "injected into the veins?" "It is said to promote, in its metallic state, the secretions of the skin, kidneys, and salivary glands."—*Pereira*; also

Christison, Niel, and others. Is its *modus operandi* understood? (See *Subdivision 1*, 19, p. 84.)

The preparations of gold have been mostly employed in secondary syphilis; but, also, in scrofula, bronchocele, and other chronic tumors, chronic diseases of the skin, etc.

11. AURO-TERCHLORIDE OF SODIUM. Sodii auro-terchloridum.

Orange colored; soluble in water.

℞. Sodii auro-terchlor. gr. j, micæ panis, ℥ij. M. Divid. in pil. No. xx. *Dose.*—One or two, twice a day.

12. TEROXIDE OF GOLD. Auri teroxydum.

Brown colored; reduced by solar light and heat.

℞. Auri teroxyd. gr. j, micæ panis, ℥j. M. Divid. in pil. No. x. *Dose.*—One to five or ten, once or twice a day.

13. TERCHLORIDE OF GOLD.—Auri terchloridum.

Orange-red colored; strong styptic taste; inodorous.

℞. Auri terchlorid. grs. ij, aquæ destillat. ℥j. M. *Dose.*—Twelve to twenty drops, once or twice a day, gradually increased.

14. IODIDE OF GOLD. Auri iodidum.

Greenish-yellow.

℞. Auri iodid. gr. j, micæ panis, 3ss. M. Divid. in pil. No. xx. *Dose.* — One or two, twice or thrice daily.

15. **TERCYANIDE OF GOLD, CYANIDE OF GOLD.** Auri tercyanidum.

Yellow powder; insoluble in water.

℞. Auri tercyanid. gr. j, micæ panis, 3ss. Divid. in pil. No. xx. *Dose.* — One or two, twice or thrice daily.

16. **POWDERED GOLD.** Auri pulvis.

Mild.

℞. Auri pulvis, grs. x, micæ panis, ʒiv. M. Divid. in pil. No. xl. *Dose.* — One to four, three or four times a day.

OTHER SUBSTANCES.

17. **SARSAPARILLA.** Smilax sarsaparilla. The root.

(See *Subdivision 1*, 19, p. 83.)

18. **NITRIC ACID.** Acidum nitricum.

Employed with variable success in syphilis, and indolent diseases of the liver. *Dose.* — Of *dilute* nitric acid, 20 to 40 drops; *strong*, 5 to 10 drops.

19. **NITRO-HYDROCHLORIC ACID.** Acidum nitrohydrochloricum.

Similar to nitric acid. *Dose.*—2 or 3 drops, diluted, and gradually increased. Applied also as a bath, or the body spunged, in syphilis and hepatic affections.

℞. 4 to 6 drachms of the acid to 3 gallons of water, in a deep foot tub. Time for immersion, 10 to 40 minutes.

20. ACETATE OF STRYCHNINE. *Strychninæ acetat.*
Employed for deep-seated syphilitic pains.

℞. *Strychnin. acet. grs. iij. alcohol. ℥j. M. Dose.*—5 to 30 drops, at night.

21. MEZEREON. *Daphne mezereum.* Bark of root.

(See B, *Subdivision 4*, 9. p. 101.)

PREPARATIONS OF SILVER.

Order of value undetermined.

All the following preparations of silver are inferior to the gold, and have been but little employed, and only so for syphilis. Like the mercurials, they are applied externally as well as internally. They never salivate, and produce but little intestinal or constitutional irritation. These are great recommendations, should these remedies prove themselves worthy, which is scarcely to be expected.

94 CLASS I. ORDER IV. ALTERNATIVES B. SUB. III.

CHLORIDE OF SILVER. Argenti chloridum.

CHLORIDE OF SILVER AND AMMONIA. Argenti et ammoniæ chloridum.

IODIDE OF SILVER. Argenti iodidum.

CYANIDE OF SILVER. Argenti cyanidum.

OXIDE OF SILVER. Argenti oxydum.

SUBDIVISION III.

Adapted to syphilis complicated with scrofula. In the order of their value.

The effect should come rather short of salivation.

1. IODIDE OF MERCURY. Hydrargyri iodidum.
(See B, *Subdivision 2d*, 3, p. 66.)

May be often very advantageously combined with free iodine.

2. BROMIDE OF MERCURY. Hydrargyri bromidum.
(See B, *Subdivision 2d*, 4, p. 66.)

3. CORROSIVE SUBLIMATE WITH IODINE. Hydrargyri bichloridum cum iodinio.

An extemporaneous combination, which should rank perhaps higher. The proportions must be regulated by the circumstances of the case; and it is often useful to associate a decoction of sarsaparilla in the treatment. (See A, 7, p. 68, and B, *Subdivision 1st*, 1, p. 74.)

CLASS L. ORDER IV. ALTERATIVES B. SUB. IV. 95

4. BINIODIDE OF MERCURY. Hydrargyri biniodidum. (See B, *Subdivision* 2d, 7, p. 89.)

5. NITRIC ACID. Acidum nitricum.

(See B, *Subdivision* 2d, 18, p. 92.)

Commonly most useful when conjoined with a desecution of sarsaparilla.

6. NITRO-HYDROCHLORIC ACID. Acidum nitrohydrochloricum.

(See B, *Subdivision* 2d, 19, p. 92.)

7. IODIDE OF IRON. Ferri iodidum.

(See B, *Subdivision* 1st, 6, p. 79.)

8. CORROSIVE SUBLIMATE. Hydrargyri bichloridum.

(See A. 7, p. 68.)

9. SARSAPARILLA. Smilax sarsaparilla.

(See B, *Sub.* 1st, 19, p. 83.)

10. GUAIAIACUM. Guaiacum officinale.

(See B, *Subdivision* 4th, 2, p. 98.)

SUBDIVISION IV.

Adapted to rheumatic inflammation and gout.

In the order of their value.

Bloodletting, general and local, is entirely the

best remedy for acute rheumatism; and the next in order, in a general sense, is a cathartic, especially of calomel, associated with jalap or castor oil. There is generally present much abdominal disease in acute rheumatism.

The remedies which are included in this group, with the exception of tartarized antimony, are mainly adapted to chronic rheumatism, or to acute rheumatism after it has passed its active stages.

1. TARTARIZED ANTIMONY. Potassee antimonio-tartras.

Adapted especially to acute rheumatism, and should be exhibited every hour or two, in doses increased as far as may be without nausea. Is generally borne in rheumatic inflammation in larger doses than in any other, at least in the United States. Can rarely be carried beyond two grains, nor often beyond half a grain at a dose. There has never been any such experience with the large doses of tartar emetic in America, as represented by Rasori, Lænnec, and others, in Europe. Such quantities would be fatal to most of our patients. It is remarkable that they, who commend this substance in the excessive doses of many grains at intervals of two hours, are especially those who have been most alarmed at the loss of blood in the same inflammatory affections for which they

administer this substance in such poisonous quantities. (See *Emetics*, 2, p. 54 and A. 13, p. 69.)

1½. MEADOW SAFFRON. *Colchicum autumnale*.

Europe. Most active just before the production of the flower, in July and August. An active poison in excessive doses. Apt to nauseate and purge, or prove emetic. Affords most relief when it purges, and often none till this effect is produced. Promotes the secretions, especially of the intestinal mucous membrane; often lessens the frequency of the pulse; not stimulant; sometimes anodyne, relieving the pain of gout, or of rheumatism, very quickly. Most useful in gout. Bloodletting should precede if there be much inflammation. Not adapted to acute rheumatism till all violence of the disease is overcome, and where pain may afterwards prove obstinate. (See *Diuretics*, *Anthelmintics*, *Antispasmodics*.)

IN ORDER OF VALUE.

- (a.) Vinum seminum colchici. Dose. — Twenty to eighty drops, gradually increased. 20.
- (b.) Vinum bulbi colchici. Dose. — Twenty to eighty drops, gradually increased.
- (c.) Tinctura seminum colchici. Dose. — Twenty to eighty drops, gradually increased.
- (d.) Acetum colchici. Dose. — Thirty to one hundred drops, gradually increased. 30.

(e.) Oxymel colchici. *Dose.* — Forty to sixty drops, gradually increased.

(f.) Pulvis bulbi colchici. *Dose.* — Two to ten grains.

(g.) Pulvis seminum colchici. *Dose.* — Two to ten grains.

(h.) Extractum bulbi colchici. *Dose.* — gr. j.

(i.) Extractum bulbi colchici acetum. *Dose.* — gr. j to grs. iij.

All the foregoing preparations may be administered from once in five to twelve hours.

Colchicina, active proximate; very poisonous; resembles *veratria* in its effects.

2. GUAIAIACUM. Guaiacum officinale. St. Domingo and Jamaica.

An acrid stimulant, and therefore only suited to chronic forms of rheumatism, gout, and some other inflammations. Often laxative and sudorific. (See *Index*.)

IN ORDER OF VALUE.

(a.) Resina guaiaci. *Dose.* — grs. x to grs. xxx, once, twice, or thrice, daily.

(b.) Tinctura guaiaci. *Dose.* — 3j to 3ss, once or twice daily.

(c.) Tinctura guaiaci composita. *Dose.* — 3ss to 3ij. Too stimulant for this group, but appropriate as an emmenagogue, once or twice daily.

(d.) Decoctum ligni guaiaci. *℞.* Guaiacum

turnings, ℥ij, water, ℔vj. Boil to three pints.
Dose. — A gill, four or five times daily.

A peculiar resin, and aqueous extractive, the active proximates.

3. WHITE HELLEBORE. *Veratrum album.*

A powerful acrid. Employed in gout and chronic rheumatism, often combined with opium. (See *Cathartics*, 39, p. 49.)

IN ORDER OF VALUE.

(a.) *Vinum veratri.* *Dose.* — Ten drops, twice or thrice daily.

(b.) *Tinctura veratri albi.* *Dose.* — Five drops, carefully increased, two or three times daily.

(c.) *Pulvis veratri.* *Dose.* — gr. j, gradually increased.

Veratria, active proximate.

4. SABADILLA. *Asagraea officinalis.* Mexican Andes. Only species. The seeds.

Virtues similar to *veratrum album*, though more acrid. Most useful externally in rheumatism, neuralgia, and paralysis.

IN ORDER OF VALUE.

(a.) *Extractum alcoholicum sabadillæ.* *Dose.* — One fifth of grain, cautiously increased.

(b.) *Pulvis seminum sabadillæ.* *Dose.* — One to five grains, gradually increased.

(c.) *Veratria*.

℞. *Veratriæ*, grs. ij, extr. *hyosciami*, grs. xxiv.
M. Divid. in pil. No. xxiv. *Dose*. — One pill once
in three or four hours, or two pills once in six or
eight hours.

(d.) *Tinctura veratriæ*.

℞. *Veratriæ*, grs. ij, alcohol. ℥ss. M. *Dose*. —
Ten to thirty drops, largely diluted. Analogous to
tinct. colchici.

(e.) The sulphate and tartrate of *veratria* may be
used instead of the alkali. *Dose*, the same.

Also externally.

Veratria and *sabadilla*, the active proximates,
generally united.

5. AMERICAN HELLEBORE. *Veratrum viride*.
United States. The root.

Very similar to the *veratrum album*. Actively
emetic in doses of 4 to 6 grains of the powder, or 1
to 2 grains of the extract. Lessens frequency of
pulse in emetic doses.

(a.) *Vinum veratri viridis*. *Dose*. — Ten to
forty drops.

(b.) *Pulvis V. v.* *Dose*. — grs. j to ij.

(c.) *Ext. V. v.* gr. $\frac{1}{4}$ to $\frac{1}{2}$, twice or thrice, daily.

℞. *Vinum V.* class 4, order 1, 14. Also externally.

6. PRICKLY ASH, TOOTHACHE TREE. *Xanthoxyl-
lum fraxineum*. United States. The bark.

Stimulant to general circulation, and diaphoretic

Like mezereum and guaiac. Dose of powder, grs. x to grs. xxx, three or four times, daily.

7. SULPHUROUS WATERS. Aquæ minerales.

See *Cathartics*, 24, p. 42.

8. STAVESACRE. Delphinium staphysagria. Europe, Levant. The seeds.

The proximate, delphinia, employed. Analogous to sabadilla. (See 4.) ℞. Delphinia, grs. ij, ext. glycyrrhiz. ℥j. M. Divid. in pil. No. xx. Dose. — One to six.

℞. Delphinia, grs. ij, ext. hyosciam. ℥j. M. Divid. in pil. No. xx. Dose. — One every 3 or 4 hours. Also externally.

9. COMMON MEZEREON, SPURGE OLIVE. Daphne mezereum. Great Britain. Bark of root.

An acrid poison in over doses. Given in detoc-tion, and generally with sarsaparilla.

℞. Mezereum bark, ʒij, water, ℥iij. Boil to ℥ij. Dose. — One or two gills, 3 or 4 times, daily.

10. WOODY NIGHTSHADE, BITTERSWEET. Solanum dulcamara. Europe and United States.

Narcotic in large doses. Increases the secretions. Not much employed. (See B. *Subdivision* 6.)

℞. Twigs chopped, ʒj, water, ℥iiss. Boil to a pint. Dose. — ʒss to ʒij, 3 or 4 times a day.

11. CYANIDE OF POTASSIUM. Potassii cyanidum.

℞. Potass. cyanid. grs. viij, aquæ destillat. ʒj. M.

Dose. — Fifteen drops, gradually increased to sixty or eighty. Also externally. An active poison, similar to hydrocyanic acid.

12. GROUND PINE. Ajuga chamæpitys. Europe and United States.

Dose of powdered leaves, ʒj to ʒij.

13. MUDAR. Calotropis gigantea. Hindostan. The bark of root.

Acrid, and vomiting in large doses. Employed in India in rheumatism, syphilis, leprosy, etc. *Dose.* — grs. iij to grs. x, thrice a day, gradually increased.

14. BLACK SNAKE-ROOT, COHOSH. Cimicifuga racemosa. United States. The root.

Tonic, and promotes the secretions generally.

℞. The root, ʒj, water, ℥ss. Boil to ℥j. *Dose.* — Half a gill, or a gill, five or six times a day. (See *Antispasmodics*.)

15. POKE-ROOT. Phytolacca decandria.

Dose of powdered root, gr. j to vj. Dose of saturated tincture of berries, 60 to 80 drops, 3 or 4 times a day. (See *Cathartics*, 43, p. 43.)

N. B. The mercurial alteratives are more or less adapted to acute and chronic rheumatism, according to contingent circumstances, as are also the preparations of iodine to old cases of rheumatism.

SUBDIVISION V.

Adapted to intermittent fever and intermittent inflammation. In the order of their value.*

The following remedies require the previous reduction of much constitutional excitement, or of local inflammation, or of venous congestions, either by bloodletting, or cathartics, or emetics, or antimonials. They are otherwise morbid; or, if they interrupt the fever, some local disease may remain and become the exciting cause of another attack.

Bark and its preparations are also frequently administered in excess; for, although large doses may arrest the fever abruptly, they are very apt to establish some local disease. I have never administered more than one grain of the sulphate of quinia at a dose, once in two to four hours; and so of the rest. An eighth to a quarter of a grain is generally as much of the sulphate as should be given at a dose in intermittent inflammation, or where the febrile paroxysms run into each other, and then only after free depletion. Antimonials should be now administered along with the bark.

All the agents of this group act in virtue of febrifuge, not of tonic properties, though most of them happen to possess the latter.

* See my Med. and Phys. Comm., vol. ii., p. 524-546.

All the substances, with the exception of arsenic, may be administered once in two or three hours, in quotidiens, and once in three or four hours, in tertians, during the intermission.

PERUVIAN BARK. *Cinchona cordifolia*; officinal yellow bark. *C. condaminea*; gray-crown bark of Loxa. *C. lancifolia*; orange-colored bark. *C. pubescens*; officinal yellow bark. *C. hirsuta*; delgado bark, very thin. *C. scrobiculata*; mixed with Loxa bark. *C. oblongifolia*; red Carthagena bark, inferior. *C. macrocarpa*; white bark.

Also divided into royal yellow bark, two varieties; red bark, several varieties; gray bark, four species; white Loxa bark; yellow Carthagena hard bark; red bark of Santa Fé.

Carried into Europe, 1640. Plant ascertained by Condamine, 1737. Confined to Peru, New Grenada, and Bolivia; growing upon the Andes, commonly at least 4000 feet above the sea. Trees and shrubs. Bark collected from September to November. The principal officinal barks are three—the *yellow Calisaya bark*, the *pale bark of Loxa*, and the *red bark*. Each contains *quinia* and *cinchonina*, but in different proportions; the *yellow bark* having most quinia, the *pale*, most cinchonina, and the *red* abounding in both. *Kinic acid* and *cinchona-tannin*, are also obtained from each, or the acid in combination with the two alkaline proximates, forming *kinates*. *Qui-*

nia is whitish and flocculent; *cinchonia* white and crystalline. Dr. Duncan, jr., obtained the *cinchonia* in 1803, but it was not till 1820 that the two alkalies were fully ascertained by Pelletier and Caventou.

All the vegetable substances of this group may be much improved by small additions of any one of the preparations of quinia. An economy may be thus sometimes properly observed. Many of the minor substances may be also usefully combined.

1. SULPHATE OF QUINIA. *Quiniæ disulphas.*

℞. Disulphat. quiniæ, grs. xvj, aquæ destillat. ℥ij. M. *Dose.* — 3j, once in two to six hours. Syrup, wine, or alcohol, may be substituted as the menstruum.

℞. Q. d. class 4, order 1, 11, or 1. ℞. Q. d. class 10, 1. ℞. Q. d. A. 13. ℞. Q. d. 14, order 2, 12. ℞. Q. d. class 3, 9. ℞. Q. d. 29. ℞. Q. d. class 2, 28, class 3, 9,^b 9.^c

These formulæ, when indicated, may be observed with the other preparations of quinia, excepting that which directs the combination of sulph. acid.

2. QUININE. *Quinia.*

℞. Q. grs. xx, alcohol. ℥ss. M. *Dose.* — Twenty to thirty drops, once in two to six hours.

3. MURIATE OF QUININE. *Quiniæ murias.*

℞. Q. m. grs. xvj, aquæ destillat. ℥ij. M. *Dose.* — 3j.

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4. PHOSPHATE OF QUININE. *Quiniæ phosphas.*

℞. Q. p. grs. xvj, syrup. simp. ℥j. M. *Dose.* —
℥ss. ℞. Q. p. grs. xx, alcohol. ℥ss. M. *Dose.* —
Twenty drops.

5. FERROCYANATE OF QUININE. *Quiniæ ferro-*
cyanas.

℞. Q. f. grs. x, alcohol. ℥ss. M. *Dose.* — Fifteen
to forty drops.

6. TANNATE OF QUININE. *Quiniæ tannas.*

℞. Q. t. grs. xx, micæ panis, ℥ij. M. Divid. in
pil. No. xx. *Dose.* — One.

7. TANNATE OF CINCHONIA. *Cinchoniæ tannas.*

Dose. — Same as 6.

8. ACETATE OF QUININE. *Quiniæ acetas.*

Dose. — One gr. in water.

9. CITRATE OF QUININE. *Quiniæ citras.*

℞. Q. c. grs. xx, alcohol. ℥ss. M. *Dose.* —
Twenty drops.

10. NITRATE OF QUININE. *Quiniæ nitras.*

Formula and dose same as 9.

11. KINATE OF QUININE. *Quiniæ kinas.*

℞. Q. k. grs. xvj, aquæ destillat. ℥ij. *Dose.* — ℥j.

12. KINATE OF CINCHONIA. *Cinchoniæ kinas.*
Formula and dose same as 9.

13. DISULPHATE OF CINCHONIA. *Cinchoniæ*
disulphas.

℞. C. d. grs. x, aquæ destillat. ℥v. M. *Dose.* — ℥ss.
℞. C. d. grs. xx, alcohol. ℥ss. M. *Dose.* — Twenty
drops.

14. POWDERED BARK. *Cinchonæ officinalis*
pulvis.

Dose of powder, 3ss to 3j.

Sometimes succeeds when the foregoing proximate transformations fail; but one or more of those should be employed first, or the powder, or infusion, or decoction, may be combined with them in various proportions.

(a.) Decoction.

℞. Coarsely powdered bark, 3j, water, ℥vj. M.
Boil ten minutes; strain. *Dose.* — 3j to 3ij.

(b.) Infusion.

℞. Bark bruised, or in fine powder, 3iss, boiling water, ℥vj. M. Macerate six hours; strain.
Dose. — 3j to 3ij. Milder than a.

15. WATERY EXTRACT OF CINCHONA. *Extractum*
cinchonæ.

Like decoction. *Dose.* — grs. v to grs. xx.

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16. TINCTURE OF CINCHONA. *Tinctura cinchonæ.*

Dose. — 3j to 3ss, usually combined.

R. T. c. 14^a, or 14^b, or 1.

17. COMPOUND TINCTURE OF CINCHONA. *Tinctura cinchonæ composita.*

Principally adapted as a tonic, and should be combined with 14^a or 14^b. *Dose.* — 3j to 3ss.

18. ARSENIOUS ACID, WHITE OXIDE OF ARSENIC. *Acidum arsenicum.*

A rather rare mineral; found in Hartz and Bohemia. Obtained from other ores. Has no tonic virtues. Should not be continued long, as it is "a slow poison."

R. Acid. arsenic. gr. j, aquæ destillat. 3j. *M.*

Dose. — Thirty drops, gradually increased to sixty, two or three times a day.

19. FOWLER'S MINERAL SOLUTION. *Liquor potassæ arsenitis.*

Dose. — Five drops, cautiously increased to sixteen, two or three times a day.

20. MAGNOLIA. *Magnolia glauca. M. acuminata. M. tripetala.* Bark of stem and root. United States. Dose of powder, 3ss. to 3ij, four or five times a day.

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21. CYANURET OF IRON, PRUSSIAN BLUE. Ferri ferro-sesquicyanidum.

Composition.—Iron, 7 eq., cyanogen. 9 eq.

Dose.—grs. iv to vj.

22. WILLOW. *Salix alba*. Also, *S. russelliana*; *S. caprea*; *S. fragilis*; *S. pentandra*; *S. purpurea*. The bark. *Dose*.—3ss to 3j. Also, decoction, as of 14^a. *Salicin*, proximate.

23. DOGWOOD. *Cornus florida*. (See 25.)

24. ROUND-LEAVED DOGWOOD. *Cornus cinnata*. (See 25.)

25. BLUE-BERRIED DOGWOOD. *Cornus sericea*. United States. The bark.

Dose of either powder, 3ss to 3j. Also, decoction as of 14^a.

26. COBWEB. *Tela araneorum*.

Extolled by Robert Jackson in his work on fever as excelling cinchona and arsenic. Has not been extensively tried. *Dose*.—Five to ten grains in pills, and, like most of the remedies of this group, to be repeated once in 3 or 4 hours, during the intermission of fever.

27. PIPERINE. Obtained from *piper nigrum*. Should be avoided if any local congestion exist.

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R. Piper. grs. xx, micæ panis, ℥ij. M. Divid. in pil. No. xx. *Dose.* — One or two every two or three hours. R. P. 1.

28. CHIRETTA. Agathotes chirayta. Mountains of Nepal. The herb and root.

Closely allied in virtues to gentian. *Dose* of powder, ℥j to 3ss. Also *infusion* :

R. Chiretta, 3ss, boiling water, ℥vj. M. Macerate two hours, strain. *Dose.* — 3j to 3ij.

29. ANGOSTURA BARK. Bonplandia trifoliata. South America. The bark.

This is sometimes confounded with the poisonous bark of the nux vomica tree, which has acquired the name of *false angostura*. *Dose* of powder, grs. x to 3ss. Also *infusion* :

R. Bon. tri. 3v, boiling water, ℥vj. M. Strain. *Dose.* — 3j to 3ij. *Dose* of *tincture*, 3j to 3ij.

30. TULIP TREE. Liriodendron tulipifera. United States. The bark.

Dose of powder, 3ss to 3ij. Decoction and infusion less useful. See 14^a 14^b, same way.

31. VIRGINIA SNAKE ROOT. Aristolochia serpentaria. United States. The root.

Irritating to the gastro-intestinal mucous membrane in large doses, occasioning nausea, or vomiting

and purging. Dose of powder, grs. x to 3ss. An infusion is best.

R. A. s. 28.

32. PINCKNEYA. *Pinckneya pubescens*. Southern United States. The bark.

Dose of powder, decoction, and infusion, same as of cinchona bark.

33. AMERICAN CENTAURY. *Sabbatia angularis*. Middle and southern states. The herb in flower.

Dose of powder, decoction, and infusion, same as of cinchona bark.

34. EUROPEAN HOLLY. *Ilex aquifolium*.

35. AMERICAN HOLLY. *Ilex opaca*. The leaves and inner bark.

Dose of either powder, 3ss to 3j.

36. WILD CHERRY BARK. *Prunus virginiana*. United States.

Reduces the frequency of pulse, and calms irritation. The bark. Dose of powder, and *cold* infusion, same as of cinchona.

37. POPLAR. *Populus tremuloides*. United States. The bark and leaves.

Dose. — Same as willow. *Salicin* and *populin*, proximates.

38. AMERICAN ALDER. *Alnus serrulata*.

39. EUROPEAN ALDER. *Alnus glutinosa*. The bark.

Dose of powder, 3ss to 3j.

40. SULPHATE OF ZINC. *Zinci sulphas*.

Dose.—gr. j to grs. iv. (See *Index*.)

41. HORSE CHESNUT. *Æsculus hippocastanum*. Asia. The bark.

Dose of powder, decoction, and infusion, same as of cinchona bark.

42. THOROUGHWORT. *Eupatorium perfoliatum*.

Some of the *Eupatorii* enjoy fabulous virtues. The *E. guaco* is especially celebrated in Germany for the cure of the malignant cholera, as it was long ago in South America, for the bites of serpents. It now assists in swelling the list of "New Remedies." (See No, 27, p. 44.)

43. All the astringents mentioned under Local Astringents, No. 10, have been employed in conjunction with some of the preceding remedies.

OBSOLETE.

White oak bark; *quercus alba*. Black oak bark; *quercus tinctoria*. Black snake root; *cimicifuga racemosa*. Black alder; *prinos verticillatus*. *Per-simmon*; *diospyros virginiana*. Germander; *teu-*

crum chamædrys. Black pepper; piper nigrum. Sulphate of copper; cupri sulphas. Ammoniated copper; ammonio-cupro-sulphas. Trinitrate of bismuth; bismuthi trinitras. Opium.

SUBDIVISION VI.

Alteratives adapted to obstinate and chronic cutaneous diseases, illustrating farther the physiological effects of certain remedial agents. In the order of their value.

1. IODINE WITH MERCURY.

(See p. 94, No. 3, for dose, etc.)

2. ARSENIOUS ACID. Acidum arsenicum.

(See p. 108, for dose, etc.)

3. FOWLER'S MINERAL SOLUTION. Liquor potassæ arsenitis.

(See p. 108, for dose, etc.)

4. ARSENIATE OF AMMONIA. Ammoniae arsenias.

R. Ammon. arseniat. gr. j, aquæ destillat. ℥j. M.

Dose.—Twenty drops, gradually increased to sixty, twice a day.

4½. IODIDE OF ARSENIC. Arsenici iodidum.

R. Arsenic. iodid. gr. ij, aquæ destillat. ℥j. M.

Dose.—Twenty drops, gradually increased to sixty, thrice a day.

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5. IODINE. Iodinium.

(The other ioduretted preparations at pp. 74-80.)

6. CORROSIVE SUBLIMATE. Hydrargyri bichloridum.

(See p. 68, for doses, etc.)

7. BICIANIDE OF MERCURY. Hydrargyri bicianidum.

(See p. 88, for dose, etc.)

8. PLUMMER'S PILL. Pilulæ hydrargyri chloridi compositæ.

Dose. — grs. v. to grs. x.

9. SARSAPARILLA. Smilax sarsaparilla.

(See p. 83, for dose, etc.)

10. SULPHUROUS WATERS. Aquæ minerales cum sulphure.

(See p. 42.)

11. BITTERSWEET. Solanum dulcamara.

(See p. 101, for dose, etc.)

12. GUAIAIACUM. Guaiacum officinale.

(See p. 98, for dose, etc.)

13. SULPHURET OF POTASSIUM. Potassii sulphuretum.

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A violent narcotico-acrid poison, in large doses.
Safe in small doses.

℞. Pot. sulph. grs. xxiv, aquæ destillat. ʒj. M.

Dose. — ʒj, gradually increased, twice a day. Or
in pills. (See *Index*.)

14. PIPSISSEWA. *Climaphilla umbellata*.

(See p. 86, for dose, etc.)

15. SULPHUR. Sulphur sublimatum.

(See p. 44, for dose, etc.)

16. DOCK, MOUNTAIN RHUBARB. *Rumex*.

Dose. — Of strong decoction, ʒj, twice or thrice a
day. (See p. 47.)

17. CANTHARIDES. *Cantharis vesicatoria*.

In psoriasis, lepra, eczema. *Dose.* — Of tincture,
15 drops, twice a day, gradually increased, but sus-
pended if strangury take place. (See *Index*.)

18. PETROLEUM.

In psoriasis, lepra, impetigo. *Dose.* — ʒj, gradu-
ally increased. (See *Anthelmintics*.)

19. CICUTA. *Conium maculatum*.

(See p. 87, for dose.)

20. SULPHURET OF ANTIMONY, ANTIMONY ORE.
Antimonii sesquisulphuretum.

Rather inert. *Dose.* — Of powder, grs. x to ʒj.

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21. SULPHURET OF MERCURY WITH SULPHUR. Hydrargyri sulphuretum cum sulphure.

Rather inert. (See p. 69, for dose, etc.)

22. ELECCAMPANE. Inula helenium. Europe and United States. The root.

Dose.—Of powder, ʒss to ʒj. Also in decoction.

23. BLACK LEAD, CARBURET OF IRON. Ferrum carburetum.

Another of the "New Remedies," commended in chronic cutaneous eruptions, even syphilitic. *Dose*.—grs. v to xv, two to four times daily. Also an ointment, R. F. c. ʒj, ad ʒiij, Ung. simp. ʒss. M. Probably useless.

ORDER V.

EXPECTORANTS.

GROUPS OF EXPECTORANTS.

1. Non-stimulating. Antimony, ipecacuanha, American ipecacuanha, butterfly weed.

2. Stimulating. Squill, seneka, gum ammoniac, button snake root, balsam of Tolu, balsam of Peru, benzoin, storax, garlic, hedge garlic, hedge mustard.

3. Stimulating and narcotic. Bloodroot.
4. Sedative and narcotic. Indian tobacco.
5. Stimulating and antispasmodic. Asafoetida, galbanum.

IN THE ORDER OF THEIR VALUE.

The expectorants may be usefully and variously combined. All the substances may be administered every two to any other number of hours.

1. TARTARIZED ANTIMONY. Potassæ antimonio-tartras.

(See p. 54, for dose, etc.)

Adapted to active inflammations.

2. IPECACUANHA. Cephælis ipecacuanha.

(See p. 53, for dose, etc.)

Adapted to active inflammation,

3. SQUILL. Scilla maritima.

Adapted only to chronic forms of catarrh, and only when a stimulating expectorant is required.

Dose. — Of powder, 1 grain, gradually increased, three or four times a day. *Dose.* — Of syrup, and of oxymel of squill, each 3j to 3ij. *Dose.* — Of vinegar of squill, 3ss to 3iss. *Dose.* — Of tincture, 10 drops to 3ij. (See p. 56.)

4. AMERICAN IPECACUANHA. *Gillenia trifoliata*.

(See p. 55, for dose, etc.)

Adapted to active inflammation.

5. BLOODROOT. *Sanguinaria canadensis*.

A stimulating, rather narcotic expectorant. Not suited to active inflammation. *Dose*.— gr. j. to grs.

v. (See p. 57.)

6. BUTTERFLY WEED. *Asclepias tuberosa*.

℞. The root, ʒj, boiling water, ℥j. M. *Dose*.— ʒj to ʒij.

7. SENEKA. *Polygala senega*. The United States. The root.

A stimulating expectorant. Emetic and cathartic in large doses. Suited only to low and chronic forms of inflammation. *Dose*.— Of powder, grs. x to xx. Also decoction; ℞. seneka, ʒj, water, ℥ij, boil to ℥j. *Dose*.— ʒj to ʒij.

8. GUM AMMONIAC. *Dorema ammoniacum*. Persia. The gum-resin.

A stimulating expectorant, and employed in chronic catarrh, where expectoration is deficient—as with squill, seneka, and bloodroot. *Dose*.— grs. x to xx, in pill or emulsion. The emulsion is best, to which 1 or 3, and 13^o may be usefully added.

9. ASAFOETIDA. *Ferula asafoetida*. Persia. The gum-resin.

A stimulating expectorant, adapted to old wheezing catarrhs, whooping-cough. *Dose*.—grs. v to x. (See *Index*.)

10. INDIAN TOBACCO. *Lobelia inflata*.

Adapted to asthmatic catarrh. (See p. 59, for dose.)

11. GALBANUM. *Bubon galbanum*. Probably Persia and Arabia. Stimulating and anti-spasmodic. The gum-resin.

Adapted to same conditions as asafoetida and ammoniacum. In pills or emulsion. *Dose*.—grs. x to 3ss. Dose of tincture, 3ss. to 3iij.

12. BUTTON SNAKE-ROOT. *Eryngium aquaticum*. The United States. The root. Aromatic.

R. Root ʒj. Boiling water, ℥j. *M.* strain. *Dose*.—Of decoction ʒj, to ʒii. Emetic in large doses.

13. BALSAM OF TOLU. *Myrospermum toluiferum*. Mountains of Tolu, Turbaco, &c. The resinous balsam.

A stimulating expectorant. The syrup forms a useful and agreeable addition to the emulsions of ammoniacum and galbanum, or other expectorants.

(a.) Dose of balsam, grs. x to grs. xxv, in form of emulsion.

(b.) Dose of syrup, 3j, to 3 ss.

14. BALSAM OF PERU. *Myrospermum peruiferum*. Peru, Mexico, etc. The resinous balsam.

A stimulating expectorant. Adapted to chronic and old asthmatic catarrhs; but, like all other stimulating expectorants, only in the absence of all general excitement. *Dose.* — 3 ss. to 3j. with mucilage and sugar.

15. BENZOIN. *Styrax benzoin*. Borneo, Java, Siam. The resinous balsam.

A stimulating expectorant. Suited only to old indolent catarrhs. Rarely employed uncombined. Dose of powder, grs. x to 3 ss.

(a.) *Tinctura benzoini composita*. *Dose.* — 3 ss. to 3ij. with mucilage and sugar.

(b.) *Acidum benzoicum*. Rarely employed. *Dose.* — grs. x to xv, with mucilage.

16. STYRAX. *Styrax officinale*. Greece, Levant, Syria. The resinous balsam.

Adapted as benzoin. *Dose.* — In pills, grs. x to xxv.

17. GARLIC. *Allium sativum*. Europe.

A large genus, and closely allied in virtues. Moderately stimulating. Employed in chronic ca-

tarrh, and old dropsies. Overrated. Dose of bulb, 3ss to 3j. Dose of juice, 3ss.

18. HEDGE GARLIC. *Erysimum alliarica*. Europe. The herb.

Employed as 17.

19. HEDGE MUSTARD. *Sisymbrium officinale*. The United States and Europe.

Stimulant. The juice or seeds.

OBSOLETE.

Dragon root; *arum triphyllum*. Comfrey; *symphytum officinale*. Liquorice; *glycyrrhiza glabra*. Colt's foot; *tussilago farfara*; and others of inferior note.

ORDER VI.

SEDATIVES,

In the order of their value.

Some of these substances are liable to excite the general circulation as their first effect; and in overdoses they prove inflammatory, or excite venous congestion, especially of the brain. They are all active poisons.

1. BLOODLETTING. *Sanguinis missio*.

(See p. 22-29.)

2. All the preparations of opium in the order of arrangement. (See *Class 4*.)

3. HENBANE. *Hyosciamus niger*, and *albus*. Europe. Naturalized. The leaves and seeds. Not constipating, rather laxative.

(a.) *Extractum hyosciami*. *Dose*.—grs. ij, repeated, or gradually increased, once in 4 to 12 hours.

(b.) *Folia hyosciami*. *Dose*.—grs. v to x.

(c.) *Tinctura hyosciami*. 3j to ʒij.

4. HYDROCYANIC ACID, PRUSSIC ACID. *Acidum hydrocyanicum*. R. *acid. hydrocyan. medicinalis*, ʒss aquæ destillat. ʒ viij. M. *Dose*.—3ij, gradually increased to ʒiv, or more, twice or thrice a day.

The *medicinal acid* is Gay Lussac's, diluted with 8.5 times its weight of water.

Employed in pulmonary phthisis, whooping-cough, hysteria, neuralgia, etc. Greatly overrated; but placed here in compliance with its reputation. The mixture should be shaken and kept in the dark.

5. CYANURET OF POTASSIUM. *Potassii cyanidum*. (See p. 102, for dose, etc.)

Overrated, but, like the hydrocyanic acid, directly and powerfully sedative.

6. CYANIDE OF ZINC. *Zinci cyanidum*.

Employed in epilepsy, hysteria, chorea, cramp of stomach, etc. *Dose*.—gr. $\frac{1}{4}$ to grs. ij, in pills or powder, twice or thrice a day.

6½. FERROCYANIDE OF ZINC. *Zinci ferrocyanidum*.

Dose. — gr. j to grs. iv, twice or thrice a day.
Same cases as 6.

7. CICUTA. *Conium maculatum*.

(See p. 87, No. 26, for dose, etc.) For relief of gastric pain, etc.

8. COLD. Ice, cold water, frigorific mixtures.

Internally and externally. Allay inflammatory and febrile excitement. These come under the usual denomination of *refrigerants*, a term of the humoral school. Vegetable acids, etc., go under the same group, and the *name* has led to a very injurious use of these substances in fevers and inflammations. Do they reduce the temperature of the body? Certainly not.

9. FOXGLOVE. *Digitalis purpurea*. Europe. The leaves.

Directly sedative to the general circulation, as to lessening the frequency, but not the force of the heart. Narcotic. Employed in phthisis, inflammations, and fevers. Greatly overrated. Cumulative, suddenly manifesting violent effects. *Dose*. — Of leaves, gr. j, gradually increased till pulse is reduced in frequency, or head or stomach affected. *Dose*. — Of tincture, 10 drops, twice or thrice a day, very cautiously increased.

10. Hops. *Humulus lupulus*. Europe and America. The strobiles and lupulin.

Allays morbid sensibility and irritability, and for this reason, though manifesting also the effect of a tonic, I have placed it under this group. (See *Narcotics and Tonics*.)

℞. Hops, ℥ss, boiling water, ℞j. M. Strain.
Dose. — ℥j to ℥ij, three or four times a day.
Dose. — Of lupulin, grs. v to xii, in pills. *Dose*. — Of tincture, ℥j to ℥iv. In rheumatic pains, wakefulness, dyspepsy of irritable habits, etc.

11. LACTUCARIUM. *Lactuca sativa*. Inspissated extract.

Simply anodyne, and, like *hyosciamus*, void of the unpleasant effects of opium. *Dose*. — grs. iij to vj.

12. TARTARIZED ANTIMONY. *Potassæ antimonio-tartras*. (See pp. 54, 69, for doses, etc.)

13. HYDROSULPHATE OF AMMONIA. *Ammoniæ hydrosulphas*.

Powerfully sedative, lessening greatly the action of the heart and arteries. Sudorific. In large doses produces vomiting, giddiness, etc. Given in gout and diabetes. Overrated. *Dose*. — Of liquor ammon. hydrosulph., five or six drops in a gill of water, three or four times a day.

14. CHERRY LAUREL. *Cerasus lauro-cerasus*.
Asia Minor. Now common.

Like the hydrocyanic acid, which is the active principle, it is a sedative narcotic, and applicable to the same cases. *Dose*.—Of the aqua lauro-cerasi, 3ss to 3j.

15. BITTER ALMONDS. *Amygdalus communis*.
Syria, Barbary. Cultivated.

Similar to cherry laurel, and applicable to the same cases. *Dose*.—Of powder, grs. ij to vi. *Dose*.—Of the volatile oil, a quarter of a drop to one drop, in mucilage.

16. TOBACCO. *Nicotiana tabacum*.
(See p. 61.)

ORDER VII.

DIURETICS,

In the order of their value.

These substances are mostly employed in dropsical affections, though 1, 2, 6, 7, 9, 10, 21, are used to increase the secretion of urine under other circumstances. They are arranged according to this particular effect, but especially as it takes place in dropsical affections. They are wholly less curative

of dropsy than bloodletting, leeching, cathartics, vesication, mercurials, etc., especially in the early stages; and should, therefore, be only employed in subordination to those remedies. The pathology of dropsy is inflammation of the serous or cellular tissues, and generally symptomatic of inflammation, or venous congestion, or organic disease, of some important organ. With the exception of squill, juniper berries, eupatorium, cahipca, buchu, pipsissewa, the substances of this group are not stimulating, and are compatible with inflammatory and febrile excitements, though not useful for those conditions.

1. ACETATE OF POTASS. Potassæ acetat.

Dose. — ʒj to ʒj.

℞. P. a. 5, 7, or 9. ℞. P. a. 3.

2. ACETATE OF SODA. Sodæ acetat.

Dose. — ʒj to ʒij. Similar to 1.

℞. The same.

3. COMMON BROOM. *Cytisus scoparius*. Europe.
The tops and seeds.

Dose. — Of seeds, grs. x to grs. xv.

Decoction, ℞. Broom-tops, ʒj, boiling water, ℥iiss. M. Boil to ℥ij. Strain. *Dose.* — ʒj to ʒij.

℞. C. s. 1, 7. ℞. C. s. 7, 8.

4. *Omitted.*5. SQUILL. *Scilla maritima.*

(See p. 117, for dose, etc.)

℞. S. m. order 4, A. 1. ℞. S. m. 1, 3, 7. ℞. S. m.
order 4, 1, 13.

6. NITRATE OF POTASH. *Potassæ nitræs.**Dose.* — grs. x to grs. xxx.

℞. P. n. 3, or 5, or 7, or 14.

7. JUNIPER BERRIES. *Juniperus communis.*
Europe. Naturalized. The berries.

Gently stimulant. Infusion:

℞. Berries, ʒj, boiling water. ℞j. M. Macerate,
strain. *Dose.* — ʒij to ʒiv, every 3 or 4 hours.

℞. J. c. 1. ℞. J. c. 8. ℞. J. c. 3, 5, 8. ℞. J. c. 1,
3, 5. ℞. J. c. 1, 3, 9.

8. BITARTRATE OF POTASH. *Potassæ bitartras.*(See p. 42.) *Dose.* — ʒj to ʒj.

℞. See 3, 7.

9. SIBERIAN DIURETIC. *Ballota lanata.* Siberia.
The palmated leaves.

Actively diuretic, aromatic. Much employed on
the European continent.

8. The leaves, ʒj to ʒij, water, ℥iss. Boil to ʒxvj. *Dose*.— ʒij to ʒiv, gradually increased.

10. SPIRIT OF NITRIC ETHER. Spiritus ætheris nitrici.

Dose— ʒj to ʒss. (See 1, 2, 7.)

11. CAHINCA. Chiococa racemosa. C. Anguifuga. (See p. 50, No. 45.) *Dose*.— Of aqueous extract, grs. v to grs. xx. *Dose*.— Of tincture, ʒj to ʒij.

12. BUCHU. Diosma crenata. Africa. The leaves.

Employed as a stimulant diuretic, and in chronic inflammation of the bladder. *Dose*.— Of powder, ʒj to ʒss. Or in infusion.

13. COLCHICUM. Colchicum autumnale. (See p. 97, for dose, etc.)

14. INDIAN HEMP. Apocynum cannabinum. (See p. 50, for dose, etc.)

15. PIRISSISSEWA. Chimaphilla umbellata. (See p. 86, for dose.)

16. BUTTERFLY WEED. Asclepias tuberosa. (See p. 118.)

17. TOBACCO. Nicotiana tabacum. (See p. 61.) *Dose*.— Of wine of tobacco, 10 to 30 drops. Seldom used in any form.

18. FOXGLOVE. *Digitalis purpurea*.

(See p. 123, for dose, etc.)

19. MOHAWK TASSEL. *Eupatorium purpureum*.

Decoction, ℞. The herb, ʒj, water, ℥iiss. Boil to ℥vj. Strain. *Dose*. — ʒj to ʒij.

20. FLEABANE. *Erigeron canadense*. *E. heterophyllum*. *E. philadelphicum*.

Strong infusion of the plants.

21. ACETATE OF AMMONIA. *Liquor ammoniæ acetatis*.

Dose. — ʒss to ʒj.

22. GUMS, AND DECOCTIONS OF MUCILAGINOUS SEEDS.

ORDER VIII.

CUTANEOUS AND OTHER LOCAL APPLICATIONS.

Subdivisions.

1. Vesicants.
2. Rubefacients.
3. Suppurants.
4. Escharotics.

130 CLASS I. ORDER VIII. CUTANEOUS, ETC.

5. Potential Cauterants.
6. Actual Cauterants.
7. Alteratives.
8. Sedatives.
9. Astringents.
10. Simple.

INJECTIONS.

1. Enemas.
2. Uterine.
3. Vaginal.
4. Urethral.

GARGLES, etc.

COLLYRIA.

SUBDIVISION OF CUTANEOUS ALTERATIVES.

- (A.) Constitutional Alteratives.
- (B.) Local Alteratives.
 - (a.) Adapted to cutaneous diseases.
 - (b.) Adapted to scrofulous and other indolent tumors, chronic enlargement of joints, etc.
 - (c.) Adapted to rheumatic inflammation.
 - (d.) Adapted to neuralgia and neuralgic rheumatism.
 - (e.) Adapted to certain conditions of erysipelas, and some other cutaneous inflammations of specific character.

CLASS I. ORDER VIII. VESICANTS. SUB. I. 131

- (f.) Adapted to sprains, etc.
- (g.) Adapted to piles.
- (h.) Adapted to carcinomatous ulcers.
- (i.) Adapted to phagedenic and tuberculous ulcers, and lepra, and impetigo.

SUBDIVISION 1.

VESICANTS,

In the order of their value.

1. SPANISH FLY. *Cantharis vesicatoria*.

- (a.) *Emplastrum cantharidis*.
- (b.) *Tinctura cantharidis*.
- (c.) *Ceratum cantharidis*.

2. POTATO FLY. *Cantharis vittata*. Same preparations as of the Spanish fly.

Several other valuable species, and ten other genera possessing analogous properties.

3. MILD AMMONIATED LOTION. *Lotio ammoniata mitis*.

R. *Liquor ammoniæ fortissima*, ℥j, *spiritus rosmarini*, ʒvj, *spiritus camphoræ*, ʒij. M.

4. STRONG AMMONIATED LOTION. *Lotio ammoniata fortis*.

132 CLASS I. ORDER VIII. RUBEFACIENTS. SUB. II.

4. LIQUOR ammoniata fortissima, 3x, spiritus rosmarini, 3iv, spiritus camphoræ, 3ij. M.

5. MEZEREON. *Daphne mezereum*. The bark.
(See p. 51.)

6. LEATHER WOOD. *Dirca palustris*. The bark.
(See p. 61.)

7. BULBOUS CROW-FOOT. *Ranunculus bulbosus*.
R. acris. *R. arvensis*. *R. flammula*. *R. repens*.
The United States and Europe. The plant.
Sometimes violent, and at other times inert.

8. LARGE FLOWERING SPURGE. *Euphorbia corollata*.
(See p. 59.)

SUBDIVISION II.

RUBEFACIENTS,

In the order of their value.

1. BLACK MUSTARD. *Sinapis nigra*. Cataplasim of the pulverized seeds. Also, oil of.

Professor Charles-Caldwell states that, in cases of congestive fever, where cathartics have failed of operating, sinapisms, applied over the spine, "invariably produced the desired effect, if used in time, and those who were treated without them, as certainly died." Vesicants would probably be equally,

CLASS I. ORDER VIII. RUBEFACIENTS. SUB. II. 133

if not more useful; and doubtless blood-letting was employed in these cases, antecedently either to the cathartics or the external remedies.

(a.) Oil of mustard. *Oleum sinapis*. A powerful irritant, in paralysis, old rheumatism, neuralgia, etc.

2. WHITE MUSTARD. *Sinapis alba*. As 1.

3. MILD AMMONIATED LOTION. *Lotio ammoniata mitis*. (See *Sub.* 1, 3.)

4. LINIMENT OF AMMONIA. *Ammoniae linimentum*.

R. *Aquæ ammoniæ*, 3 ss, *olei olivæ*, ʒj. M.

5. OINTMENT OF AMMONIA. *Unguentum ammoniæ*.

6. WATER OF AMMONIA. *Aqua ammoniæ*.

7. CAPSICUM, CAYENNE PEPPER. *Capsicum annuum*.

8. PETROLEUM. A liniment of. (See *Index*.)

9. RUE. *Ruta graveolens*. (See *Index*.)

SUBDIVISION III.

SUPPURANTS,

In the order of their value.

1. A SETON. Setaceum.

2. OINTMENT OF TARTARIZED ANTIMONY. Unguentum potassæ antimonio-tartratis.

R. Tartrat. antimonii, 3j, ung. simplicis, 3j.

M. Rub on the skin once or twice a day.

3. CERATUM CANTHARIDIS.

(See *Subdivision 1, 1 c.*)

4. CROTON OIL. Croton tiglii. (See p. 41.)

Rub on the skin four to eight drops, once or twice a day; or, when the skin is delicate, dilute with olive oil or lard.

5. SAVINE. Juniperus sabina.

An ointment of the leaves, applied to vesicated surfaces, etc. (See *Index.*)

6. MINERAL ACIDS. Acida mineralia.

7. FLORENTINE IRIS. Iris florentina.

Irritating. Made into issue peas. (See p. 51, No. 51.)

SUBDIVISION IV.

ESCHAROTICS,

In the order of their value.

1. NITRATE OF SILVER. Nitras argenti.

Peculiarly valuable. Applicable to almost all ulcers, arresting their destructive progress, and promoting healthy granulation. Best application to sloughing or ulcerated throat in cynanche, scarlatina, etc., and to syphilitic sores. The *purest* and *solid* caustic should be applied.

2. SULPHATE OF COPPER. Cupri sulphas.

Very valuable. A saturated solution, applied by camel's hair brush. (See p. 58.)

3. BUTTER OF ANTIMONY. Antimonii sesquichloridum.

Applied to exuberant ulcers, with pencil.

4. OINTMENT OF SUBACETATE OF COPPER. Unguentum cupri subacetatis.

5. BUTTER OF ZINC, CHLORIDE OF ZINC. Zinci chloridum.

℞. Chloride of zinc, 1 drachm to 1, 2, 3, or 4 drachms of flour made into a paste with water. Applied to hard fungous ulcers.

136 CLASS I. ORDER VIII. P. CAUTERANTS. SUB. V.

6. BURN'T ALUM. Potassæ alumino-sulphas.
7. BLOOD-ROOT. *Sanguinaria canadensis*.
Applied to fungous surfaces. (See p. 57.)
8. CASHEW NUT. *Apacardium occidentale*. West
Indies. Juice of nut-shell.
To ulcers, warts, ringworms.
9. MINERAL ACIDS. *Acida mineralia*.
10. ACETIC ACID. *Acidum aceticum*.
Warts, etc.
11. CELANDINE. *Chelidonium majus*. United
States. The juice. Warts.

SUBDIVISION V.

POTENTIAL CAUTERANTS,

In the order of their value.

1. CAUSTIC POTASH. Potassa.
2. NITRATE OF SILVER. *Nitras argenti*.
(See p. 135.)
3. POTASSA WITH LIME. *Potassa cum calce*.
℞. Potassa and newly slacked lime, equal parts;
keep the paste in a well-stopped bottle.

CLASS I. ORDER VIII. A. CAUTERANTS. SUB. VI. 137

4. BUTTER OF ANTIMONY. Antimonii sesquichloridum.

(See p. 135.)

5. CHLORIDE OF ZINC. Zinci chloridum.

(See p. 135.)

6. NITRIC ACID. Acidum nitricum.

7. SULPHURIC ACID. Acidum sulphuricum.

8. ARSENIATE OF IRON. Ferri arsenias.

R. Ferri arseniat. 3ss., ferri phosphat. 3ij, unguenti simp. 3vj. M. Applied to cancerous ulcers, spread on lint.

9. ARSENIUS ACID. Acidum arsenicum. The cerate.

Applied to cancerous tumors and ulcers. Hazardous.

SUBDIVISION VI.

ACTUAL CAUTERANTS,

In the order of their value.

1. WHITE-HOT IRON. Ferrum candens.

2. MOXA. Artemisia chinensis. A. indica. A. vulgaris. Prepared from the down of leaves.

138 CLASS I. ORDER VIII. ALTERATIVES A. SUB. VII.

3. **COTTON MOXA.** Cotton of the common goessypium, prepared with the nitrate or chlorate of potash.

4. **ROBINET'S MOXA.** Cotton rolled around the pith of sunflower, and enveloped in muslin.

5. **SUNFLOWER MOXA.** The simple pith of the *helianthus annuus*.

6. **AGARIC MOXA OF THE OAK, OR SPUNK.** *Boletus igniarius*.

Moxas are employed in paralysis, painful affections of nerves, muscles, or fibrous tissues, diseased joints and spinal affections, organic diseases of internal viscera.

SUBDIVISION VII.

ALTERATIVES.

The remedies embraced in the preceding subdivisions are alteratives; and the term is here appropriated to such agents as operate without any prominent local result. (See pp. 16, 62.)

(A.) CONSTITUTIONAL ALTERATIVES.

In the order of their value.

1. **BLUE MERCURIAL OINTMENT.** Unguentum hydrargyri.

(See p. 67.)

2. IODIDE OF MERCURY. Hydrargyri iodidum.

℞. Hydr. iod. grs. xxx, ung. simp. ℥ss. M. Scrofulous and syphilitic ulcers, lupus, indolent tumors, sycosis, psoriasis, and other chronic cutaneous diseases: (See p. 88.)

3. BINIODIDE OF MERCURY. Hydrargyri biniodidum.

℞. Hydr. biniod. grs. v to xv, ung. simp. ℥j. M. To same as 2. (See p. 89.)

4. BICIANIDE OF MERCURY. Hydrargyri bicianidum.

℞. Hydr. bicianid. grs. v to xv, ung. simp. ℥j. M. To same as 2. (See p. 67.)

5. NITRO-MURIATIC ACID BATH. Acidi nitrohydrochlor. balneum.

℞. Acid. ℥iv ad ℥vj, aquæ fontan. ℔xvj. In syphilis and hepatic affections. Applied to the feet, or the body spunged. (See p. 92.)

6. BATH OF IODURETTED IODIDE OF POTASSIUM. Balneum potassii iodidi iodureti.

℞. Iodin. 3ij ad 3iijss, potassii iodidi, 3iv ad ℥j, aquæ fontan. ℔400 ad ℔600. M. (*Lugol*.) In scrofula. (See p. 78.)

7. VERATRIA. Asagræa officinalis.

140 CLASS I. ORDER VIII. ALTERATIVES B. a. SUB. VII.

℞. Verat. ʒj ad ʒij, ung. simp. ʒj. M. Rheumatism, gout, neuralgia. Also a tincture of *asagræa*. (See p. 99.)

8. STRYCHNIA. Strychnina.

In paralysis. Sprinkle a blistered surface once or twice a day with a quarter of a grain, gradually increased to one grain. The pure strychnia, or the sulphate, are the best, or *brucia* may be used in six to ten times the quantity.

9. TINCTURE OF NUX VOMICA. Tinctura nucis-vomicæ. In paralysis.

Also, ℞. T. n. v. Sub. 2, 6.

10. TOBACCO. Nicotiana tabacum.

To be avoided. (See p. 61, No. 24.)

(B.) LOCAL ALTERATIVES.

(a.) ADAPTED TO CUTANEOUS DISEASES.

In the order of their value.

1. CITRINE OINTMENT. Unguentum nitratis hydrargyri.

Various affections.

2. OINTMENT OF WHITE PRECIPITATE OF MERCURY AND AMMONIA.

℞. Hydrargyri ammoniati, grs. x ad ʒss, ung.

CLASS I. ORDER VIII. ALTERNATIVES B. C. SUB. VII. 141.

stramonii, ℥j. M. Also with simple ointment.
Various affections.

3. CALOMEL OINTMENT.

℞. Submuriat. hydrarg. ℥j, ung. simp. ℥j. M.
Herpes, porrigo, impetigo, lepra, psoriasis, etc.
(*Pereira*, p. 472.)

4. OINTMENT OF THE IODIDE OF SULPHUR.

℞. Sulphuris iodidi, grs. x ad xxv, ung. simp. ℥j.
M. Tinea capitis, squamous, papular, and pustular
diseases. Porrigo, acne, lepra, psoriasis, etc.

5. OINTMENT OF SULPHURIC ACID. Acidi
sulphurici unguentum.

Psora, porrigo, syphilitic ulcers, etc.

6. COMPOUND SULPHUR OINTMENT, ETC. Un-
guentum sulphuris compositum. Psora, etc.

7. SULPHUR OINTMENT. Unguentum sulphuris.
Psora, etc.

Though this and 6 are less used than some of the
following, this is their relative value.

8. SOLUTION OF SULPHURET OF POTASH.

℞. S. p. ℥iv, water, 30 gallons. M. Bath, for
psora, lepra, eczema, etc. ℞. S. p. 3ss, ung. simp.
℥j. M.

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9. OINTMENT OF IODIDE OF MERCURY.

(See A. 2, p. 139.) Various obstinate cutaneous diseases.

9½. OINTMENT OF BINIODIDE OF MERCURY.

(See A. 3, p. 139) As 9.

10. OINTMENT OF WHITE HELLEBORE.

℞. Pulv. veratri albi, ʒij, ung. simp. ʒj. M.
Psora, etc.

11. OINTMENT OF NITROUS ACID. Same as 4.

12. OINTMENT OF NITRIC ACID. Same as 4.

13. OINTMENT OF NITRO-MURIATIC ACID.
Same as 4.

14. OINTMENT OF RED PRECIPITATE OF MERCURY. Ung. hydrargyri binoxidi.

Porrigo, psora, indolent ulcers, etc.

15. MILD MERCURIAL OINTMENT. Ung. hydrargyri mitius.

Various diseases. As 3 and 5.

16. OINTMENT OF IODINE.

℞. Iodin. grs. x ad ʒj, ung. simp. ʒj. M. Tetter, etc. Also, ℞. Potass. iodid. ʒj ad ʒj, ung. simp. ʒj. As 3, 4, 9.

CLASS I. ORDER VIII. ALTERATIVES B. *α*. SUB. VII. 143

17. OINTMENT OF BROMIDE OF POTASSIUM.

℞, Potassii bromidi, ʒj ad 3ij, ung. simp. ʒj.
M. Tinea capitis, and as 3, 4.

18. SOLUTION OF CORROSIVE SUBLIMATE.

℞. Hydrargyri bichloridi, grs. j ad ij, aquæ destillat. ʒj. M. Lepra, and other scaly diseases.

19. LOTION OF CHLORIDE OF BARYTES.

℞. Barri chloridi, ʒss ad 3j, aquæ destillat. ʒj.
M. Herpes, etc.

20. OINTMENT OF MOUNTAIN LAUREL. Ung. kalmiæ latifoliæ.

Tinea capitis, psora, herpes, etc.

21. OINTMENT OF POKE WEED. Ung. phytolaccæ decandræ.

Same as 20.

22. BLACK PITCH OINTMENT. Ung. picis nigræ. Pinus sylvestris.

Same as 20.

23. PETROLEUM.

A liniment of, in psoriasis, lepra, impetigo, lupus.
(See *Index*.)

24. COD LIVER-OIL. Oleum jecinoris aselli.

144 CLASS I. ORDER VIII. ALTERATIVES B. α. SUB. VII.

Commended by the Germans as an external and internal remedy for chronic cutaneous diseases, eczema, rhagades, chapped hands, excoriations, etc.; and enjoys the recommendation of Dr. Marshall Hall as an external remedy. (See p. 80.)

25. SOOT. Fuligo.

Very useful in herpes, psora, tinea capitis, pruritus vulvæ, porrigo, *sore nipples*, etc.

℞. Soot, ʒj, water, ʒviij. Boil. Strain. ℞. Fulig. ʒijss, albumin. ovi, no. 1. M. ℞. Fulig. ʒj, ung. simp. ʒij ad ʒiv. M. ℞. Fulig. ʒiij, zinci sulph. ʒj, ung. simp. ʒj. M. ℞. Fulig. ʒiij, sulphur. ʒvj, cinchonæ pulv. ʒvi, ung. simp. ʒj. M.

26. OINTMENT OF MEADOW ANEMONE. Ung. anemone pratensis. Same as 20.

27. OINTMENT OF COCCULUS INDICUS.

℞. Semen anamirtæ cocculi pulv. ʒj, ung. simp. ʒss. M. Same as 20.

28. LIQUOR OF ACETATE OF AMMONIA. Liquor acetatis ammoniæ.

Same as 20.

29. OINTMENT OF SUBACETATE OF COPPER. Ung. cupri subacetatis.

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Obstinate ringworms, foul ulcers of ophthalmia tarsi, corns, etc.

30. HYDROCYANIC ACID.

℞. Acid. hydrocyanic. medicinalis, 3ij, aquæ destillat. ℥viij. M. To allay irritation, and itching of psoriasis, impetigo, prurigo, etc. Acetate of lead may be added. (See p. 122.)

31. SOLUTION OF CHLORIDE OF SODA.

Diluted or not. Same cases as 20.

32. CHLORINE WATER. Aqua chlorinii.

Same as 20. More or less diluted with water, or not. Employed internally, in Europe, in many diseases, as scarlet fever, erysipelas, hydrophobia, the exanthemata, intermittents, phthisis, inflammation of the liver, and so on. Has but little effect.

33. OINTMENT OF SESQUI-IODIDE OF CARBON.

℞. Carbonis sesqui-iodidi, 3ss, ung. simp. 3vj. M. In lepra, porrigo, strumous glands, etc.

34. VINEGAR OF BLOODROOT.

In obstinate affections. (See p. 57.)

35. OINTMENT OF DOCK. MOUNTAIN RHUBARB.

Rumex crispus, R. obtusifolius, etc.

Psora, and other cutaneous eruptions. In popular use. (See *Index*.)

36. SAVINE. *Juniperus sabina*.

The powder of leaves, or decoction, or fresh juice, in psora, tinea capitis, warts, etc. (See *Index*.)

37. TURPENTINE LINIMENT. *Linimentum terbinthinæ*.

Kentish's celebrated liniment for scalds and burns.

+ 38. TOBACCO OINTMENT. *Ung. nicotianæ tabaci*.
Tinea capitis, irritable ulcers. (See p. 61.)

(b.) ADAPTED TO SCROFULOUS AND OTHER INDOLENT TUMORS,
CHRONIC ENLARGEMENTS OF JOINTS, ETC.,

In the order of their value.

1. OINTMENT OF IODINE.

℞. Iodinii, ʒj, ung. simp. ʒj. M. Also a plaster may be prepared from iodine, by uniting it with the common materials.

2. OINTMENT OF IODURETTED IODIDE OF POTASSIUM.

℞. Iodinii. grs. xv, potass. iodidi, ʒss, ung. simp. ʒj. M. Also a plaster.

3. OINTMENT OF IODIDE OF POTASH.

[Faint handwritten notes and signatures at the bottom of the page.]

R. Potass. iodidi, ʒss ad ʒij, ung. simp. ʒj. M.
Also a plaster.

4. OINTMENT OF BROMIDE OF POTASSIUM.

R. Potass. bromidi, ʒj ad ʒij, ung. simp. ʒj. M.
Free brome may be added. Also a plaster.

5. OINTMENT OF IODIDE OF LEAD.

R. Plumbi iodidi, ʒj, ung. simp. ʒj. M. Also, a
plaster.

6. OINTMENT OF IODIDE OF ZINC.

R. Zinci iodidi, ʒj, ung. simp. ʒj. M. Also, a
plaster.

7. OINTMENT OF IODIDE OF SULPHUR.

R. Sulphuris iodidi, ʒj ad ʒss, ung. simp. ʒj. M.

8. OINTMENT OF THE IODIDE OF AMMONIA.

R. Ammoniae iodidi, ʒj ad ʒj, ung. simp. ʒj. M.

9. GUM AMMONIAC PLASTER. (See p. 118.)

Rub the gum with vinegar.

10. MERCURIAL PLASTER. Emplastrum hydrargyri.

11. COMPOUND MERCURIAL OINTMENT. Lini-
mentum hydrargyri compositum.

12. PLASTER OF GALBANUM. *Emplastrum galbani*, and *galbani compositi*. (See p. 119.)

13. SOLUTION OF CHLORIDE OF SODIUM, SEA-WATER, MINERAL WATERS, ETC.

(c.) ADAPTED TO RHEUMATIC INFLAMMATIONS,

In the order of their value.

1. LEECHES. 2. BLISTERS. 3. EMOLLIENT POULTICES.

4. AQUA AMMONIÆ. Compounded with essential oils, camphor, laudanum, or with expressed oils. Also, *rubefacient*, 3, p. 133.

R. Aq. am, Tinct. opii., Ol. terebinth.; Tinct. camphoræ, a a. $\frac{3}{4}$ j. M.

5. OINTMENT AND TINCTURE OF VERATRIA.

R. Veratriæ, 3 ss, ol. olivæ, 3 j, ung. simp. $\frac{3}{4}$ j.
M. R. Veratriæ, 3 ss, alcohol. $\frac{3}{4}$ j. M.

6. TINCTURE OF SABADILLA. *Tinctura asagraræ officinalis*.

(See p. 99.)

7. OINTMENT AND SOLUTION OF DELPHINIA. *Delphinium staphysagria*. (See p. 101.)

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℞. Delphinia, 3ss, ol. olivæ, ʒj, ung. simp. ʒj. M.
℞. Delphin. ʒj, alcohol. ʒij. M. ℞. Delphin. ʒj,
aquæ destillat. ʒij. M.

8. CAMPHORATED LINIMENT. Linimentum camphoratum.

(See 4.)

9. OIL OF TURPENTINE. Oleum terebinthinæ.
(See 4, and *Index*.)

10. SULPHUR-FUME BATH.

11. CARBURET OF SULPHUR. Sulphuris carburetum.

℞. S. c. 8, or 9, etc. Also, internally, ℞. S. c.
3j, alcohol. ʒss. M. *Dose*. — 4 drops, once in 2 to 4
hours.

12. ACUPUNCTURATION. 13. ELECTRO-ACU-
PUNCTURATION.

14. CAJEPUT OIL. Oleum melaleucæ cajeputi.
Other essential oils; oil of mustard, especially.

15. PETROLEUM. A liniment of.
Also, in paralysis, chilblains, and obstinate cuta-
neous diseases.

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(d.) ADAPTED TO NEURALGIA, AND NEURALGIC RHEUMATISM,

In the order of their value.

1. ACONITE. *Aconitum napellus*. Europe. The leaves and root. *Aconitana*, proximate.

Produces numbness and tingling when applied to the tongue. Poisonous. Apt to be spurious. Not useful when active inflammation is present, either in neuralgia or rheumatism, but otherwise very efficient. \mathfrak{R} . *Aconitinæ*, grs. xv, ol. olivæ, \mathfrak{Oj} , ung. simp. $\mathfrak{℥j}$. M. \mathfrak{R} . *Aconitinæ*, grs. v, alcohol. $\mathfrak{℥j}$. M. \mathfrak{R} . *Radiciſ aconiti* (recently dried) $\mathfrak{℥ij}$, alcohol. $\mathfrak{℥iij}$. M. ft. tinctura. \mathfrak{R} . Extract. alcoholic. *aconit.* $\mathfrak{℥ss}$, ung. simp. $\mathfrak{℥ij}$. M. Rubbed upon the skin. (See class iv, order v.)

2. OINTMENT AND TINCTURE OF DELPHINIA.

(See pp. 101 148, and class 4, order 5.)

3. OINTMENT AND TINCTURE OF VERATRIA AND SABADILLA.

(See c. 5 and 6, p. 148.)

4. BELLADONNA. *Atropa belladonna*.

\mathfrak{R} . Ext. belladon. $\mathfrak{℥j}$, emplastri resinosi, $\mathfrak{℥ij}$. M. \mathfrak{R} . Ext. belladon. $\mathfrak{℥j}$ ad $\mathfrak{℥ij}$, ung. simp. $\mathfrak{℥j}$. M. Also, the tincture and the extract. (See *Index*.)

5. CICUTA. *Conium maculatum*.

Preparations like 4. (See *Index*.)

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6. STRAMONIUM. *Datura stramonium*.

Preparations like 4. (See *Index*.)

7. CYANIDE OF POTASSIUM.

(See p. 102.)

R. Potassii cyanidi, grs. ij aut iv; ung. simp. ʒj.

M. R. Potass. cyanid. gr. j aut iij; aquæ destillat.

ʒj. M.

8. CREASOTE. *Creasoton*.

9. OPIUM. EXTRACT OF *HYOSCIAMUS*.

(e.) ADAPTED TO CERTAIN CONDITIONS OF ERYSIPELAS, SPREADING AND SLOUGHING ULCERS, ETC.,

In the order of their value.

1. LEECHES.

Adapted to erysipelas in all its conditions.

2. NITRATE OF SILVER. *Argenti nitras*.

(See p. 135.) Erysipelas, ulcers, etc.

(f.) ADAPTED TO SPRAINS,

In the order of their value.

1. LEECHES. 2. WARM FOMENTATIONS WITH
POULTICES, OR WATER.

3. SAL AMMONIAC. *Ammoniaë murias*. R. Ammon. mur. ʒj, aut ʒss, acidi acetici, ℥j. M. Adapted to recent sprains, and the inflamed breasts of child-bed women. Fomentation warm.

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4. CHLORIDE OF SODIUM.

Same as 3, but inferior. (See p. 44.)

5. EMPLASTRUM AMMONIACUM.

(See p. 147.) Old sprains.

6. LOCAL SHOWER BATH.

Old sprains.

(g.) ADAPTED TO FILES,

In the order of their value.

1. STRAMONIUM OINTMENT. Ung. stramonii. Cataplasma of leaves.

2. OINTMENT OF CICUTA. Ung. conii maculati. Also, cataplasma of leaves.

3. OTHER LOCAL NARCOTIC SEDATIVES.

(See *Subdivision 8.*)

4. OINTMENT OF TOAD FLAX. Ung. Antirrhini linariæ. Also, cataplasma of leaves.

5. OINTMENT AND STRONG DECOCTION OF NUT GALLS.

6. OINTMENT OF BALSAM WEED. Ung. Impatiensis fulvæ; I. pallidæ; I. balsamæ.

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7. OINTMENT OF AMERICAN POKE ROOT. Ung. Phytolaccæ decandræ.

(See p. 49.)

8. OINTMENT OF SCROPHULARIA. Ung. scrophulariæ nodosæ. The leaves.

(h) ADAPTED TO CARCINOMATOUS ULCERS,

In the order of their value.

1. ARSENIATE OF IRON. Ferrum arseniatum.

(See p. 137.)

2. OTHER ESCHAROTICS.

(See p. 135.)

3. SOME OF THE NEXT FOLLOWING SUBDIVISION.

4. MARYGOLD. Calandula officinalis.

An old remedy, revived in the north of Europe, externally and internally, in form of decoction and extract. Probably useless.

(i.) ADAPTED TO PHAGEDENIC, TUBERCULOUS, INDOLENT VENEREAL, SCROFULOUS, AND OTHER UNHEALTHY ULCERS,

In the order of their value.

1. NITRATE OF SILVER. Nitras argenti.

(See p. 135.) All ulcers.

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2. IODINE OINTMENT.

(See p. 142.) Scrofulous ulcers.

3. OINTMENT OF IODURETTED IODIDE OF POTASH.

(See p. 146.) Scrofulous ulcers, &c.

3½. Lugol's "rubefacient solution" of iodine. ℞. iodin. 3j, potass. iodid. 3ij, aquæ destillat. ʒ iss. M. Active. Scrofulous ulcers, etc. ℞. iodine, ʒ ss, potass. iodid. ʒj, aquæ destillat. ʒj. M. A caustic solution.

4. OINTMENT OF IODIDE OF MERCURY.

(See p. 139.) Scrofula, lues, &c.

5. MERCURIAL OINTMENT. Ung. hydrargyri fortius, et mitius.

(See p. 67.)

6. OINTMENT OF THE NITRIC OXIDE OF MERCURY. Ung. hydrargyri nitrico-oxidi.

7. OINTMENT OF THE IODIDE OF ARSENIC. ℞. Arsenici iodidi, grs. iij, ung. simp. ʒj. M.

8. OINTMENT OF BICIANIDE OF MERCURY.

(See A. 4, p. 139.)

9. OINTMENT OF BINIODIDE OF MERCURY.

(See A. 3, p. 139.)

10. BLACK WASH. Lotio nigra. ℞. hydrargyri chloridi, ʒ ss, aquæ calcis, ʒ viij. M. Venereal ulcers.

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11. PHAGEDENIC YELLOW WASH. Lotio flava. \mathcal{R} . hydrargyri bichloridi, grs. ij, aquæ calcis, \mathfrak{z} j. M. Phagedenic, venereal, and scrofulous ulcers.

12. SULPHATE OF COPPER. Cupri sulphas. Solid or in solution.

13. LIQUOR CUPRI AMMONIO-SULPHATIS. \mathcal{R} . cupri ammoniaretii, grs. xv, aquæ destillat. \mathfrak{z} v. M.

14. LINIMENT OF SUBACETATE OF COPPER.

(See B. a. 23, p. 144.)

14½. CHLORINE WATER. Aquæ chlorini. In offensive and indolent ulcers, cancrum oris, apthæ, diluted with 1 to 8 parts of water.

15. CORROSIVE SUBLIMATE. \mathcal{R} . hydrargyri bichloridi, \mathfrak{z} j, zinci sulphatis, \mathfrak{z} j. M. The ulcer of onychia maligna. Also, solutions of grs. v to x in water \mathfrak{z} j, for various ulcers, especially venereal.

16. SOLUTION OF CHLORIDE OF SODA. Liquor sodæ chlorinatæ.

Concentrated, or diluted with four or eight parts of water. Foul ulcers and sore nipples.

17. BALSAM of PERU. Alone, or in form of ointment.

(See *Expectorants*, p. 120)

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18. OINTMENT OF CATECHU.

℞. Catechu, 3iv, alumen. 3j, ung. simp. 3ij. M.

18½. RHUBARB. *Rheum palmatum*.

Powder of root, sprinkled on the surface of ulcers nearly disposed to heal.

19. SAVINE. *Juniperus sabina*.

The powdered leaves, or decoction, to indolent or gangrenous ulcers, or caries. (See *Index*.)

20. RUE. *Ruta graveolens*.

The plant, in gangrene and foul ulcers. (See *Index*.)

21. IODIDE OF ARSENIC.

℞. Arsenici iodidi, grs. iij, ung. simp. 3j. M.
For phagedenic tuberculous herpes.

22. SOLUTION OF CHLORATE OF POTASH.

℞. Potassæ chloratis, 3ss, aquæ destillat. 3vj. M.
Indolent ulcers, pencilled.

Given internally in neuralgia, neuralgic rheumatism, tuberculous phthisis. Probably useless.

23. OINTMENT OF SOOT.

℞. Fuliginis, 3j, ung. simp. 3j. M. Or add ext. hyosciami or belladonnæ, 3ss. Foul ulcers, cancers, tinea, etc. (See p. 144.)

CLASS I. ORDER VIII. LOCAL SEDATIVES. SUB. VIII. 157

SUBDIVISION VIII.

LOCAL SEDATIVES,

In the order of their value.

(See *Sedatives*, p. 121-125.)

1. WARM BATH, EMOLLIENT POULTICES, WARM FOMENTATIONS.

2. ACETATE OF LEAD.

℞. Acetatis plumbi, gr. j ad v, aquæ destillat. ℥j.
M. ℞. Solution, and infusion of opium. ℞.
Plumb. acet. grs. xii, ung. simp. ℥j. M.

3. GOULARD'S EXTRACT.

℞. Liquoris plumbi diacetatis, 3iss aquæ destillatæ, ℥xvj. M. ℞. Liquor plumbi diacetatis, 3ij, ung. simp. ℥j. M.

4. STRAMONIUM, THORN APPLE. *Datura stramonium*. United States. Other species. The leaves.

An ointment, cataplasm of leaves, and plaster of extract. (See *Index*.)

5. WOLFBANE. *Aconitum napellus*.

(See B, d, 1, p. 150.)

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6. **BELLADONNA.** *Atropa belladonna.* The extract, cataplasm of leaves, and plaster of extract. (See *Index*.)

7. **CICUTA, CONIUM MACULATUM.** The extract, and ointment, and cataplasm of leaves. (See *Index*.)

8. **ZINC OINTMENTS.** Ung. zinci carbonatis præparati. 9. Ung. zinci oxydi. 10. Ung. oxydi zinci impuri. Established proportions.

11. **CYANIDE OF POTASSIUM.** (See p. 151.) Adapted especially to neuralgia.

12. **ACETATE OF MORPHINE.** *Morphiæ acetas.* Other preparations of morphia. Solution and ointment. (See *Narcotics*.)

13. **HYDROCYANIC ACID.** (See formula B, a, 30, p. 145.)

14. **OPIUM.** *Papaver somniferum.* Various preparations.

15. **HENBANE.** *Hyosciamus niger.* (See p. 122, No 3.) The extract, and ointment of leaves.

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16. LIME-WATER LINIMENT. *R.* Aquæ calcis, ℥j, Olei lini usitatissimi, aut olei olivæ, ℥j. *M.*

17. TANNATE OF LEAD. *Plumbi tannatis.*

R. Oak bark, ℥j, boiling water, ℥viij. *M.* Boil to ℥v. Strain. Add acetate of lead while precipitate falls. Filter, and dry the precipitate to the consistence of a thin ointment. (*Dunghison's New Remedies.*) Commended as an application to sores produced by lying.

18. LINIMENT OF BALSAM APPLE. *Momordica balsamica.* East Indies. Cultivated. The fruit. Piles, burns, chapped hands, etc.

19. PLASTER OF ASAFÆTIDA. *Emplastrum asa-foetidæ.*

In hysteria, whooping cough, etc.

SUBDIVISION IX.

LOCAL ASTRINGENTS,

In the order of their value.

See remarks upon their operation, p. 16, and under General Astringents.

1. NUTGALLS, DYER'S OAK. *Quercus infectoria.* Asia Minor. The nutgalls.

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A morbid excrescence, occasioned by hymenopterous insects puncturing the twigs and leaves of the oak. Ointment and strong infusion for piles; gargle for relaxed uvula, etc.; injection in gleet and leucorrhœa; wash in flabby ulcers, prolapsus ani and vaginæ, etc.

2. COMPOUND SOLUTION OF ALUM. Liquor aluminis compositus.

℞. Alum. 3ss, zinci sulph. 3ss, aquæ, ℥iij. M. Strain. Stimulant to foul ulcers, gleet, leucorrhœa, etc.

3. SOLUTION OF COMPOUND SULPHATE OF COPPER.

℞. Cupri sulph. 3ss, alum, 3ss, aquæ, 3vss, acid. sulphuric. ʒj. M. To arrest superficial hemorrhage.

4. SULPHATE OF ALUM AND POTASH. ALUM. Aluminis et potassæ sulphas.

In powder and solution. Principally a gargle.

5. CREASOTE. Creasoton.

(See p. 151, hemorrhage.)

6. COBWEB. Tela araneæ.

(See p. 109, hemorrhage.)

7. SULPHATE OF ZINC. Zinci sulphas.

Hemorrhage, leucorrhœa, gonorrhœa, ophthalmia.

8. SULPHATE OF COPPER. Cypri sulphas.

Hemorrhage, ophthalmia.

8½. NITRATE OF SILVER. Argenti nitras.

Solid, or in solution of 2 grs. or more to ℥j of distilled water. In same cases as 7.

9. AMERICAN SANICLE. Alum root. Heuchera Americana. The root.

Powder and decoction. Hemorrhage.

10. WHITE OAK BARK. Quercus alba. BLACK OAK BARK. Quercus tinctoria. The United States. The bark.

Decoction. Injection in leucorrhæa, gargle, etc. Also, quercus robur, geranium maculatum, geum urbanum, geum rivale, krameria triandria, statice caroliniana, tormentilla erecta, polygonum bistorta, rubus villosus, comptonia asplenifolia. (See *Internal Astringents*.)

11. ICE.

Hemorrhage, especially uterine, applied to walls of uterus. (See order vi, Cold, p. 123.) I have added this substance here to illustrate something of the principle upon which the reputed astringents operate.

12. BINELLI'S BALSAM WATER. Aqua Binelli.

Once celebrated for arresting hemorrhage from divided arteries. Its effects shown to be due to cold and pressure.

SUBDIVISION X.

SIMPLE APPLICATIONS,

In the order of their value.

1. SIMPLE OINTMENT. Unguentum simplex.

Dressing for blisters, scalds, etc.

2. SPERMACETI.

Obtained from the physeter macrocephalus whale, or great headed cachalot. Unguentum cetacei, ceratum cetacei. Same as 1.

3. BEEF SUET. Adeps bovis tauri.

Same as 1.

4. MUTTON SUET. Adeps ovis arietis.

Same as 1.

5. RESINOUS OINTMENT. Unguentum resinosum.

Same as 1. Also, to ulcers, wounds, etc. Rather stimulant.

6. RESINOUS PLASTER, ADHESIVE PLASTER. Em-
plastrum resinosum.

7. COTTON. *Gossypium herbaceum*.

The hairs or wool of seed. Burns and scalds.
Apply thick and close.

8. CHARCOAL CATAPLASM. *Cataplasma carbonis
ligni*.

Foul ulcers, gangrene.

9. LITHARGE PLASTER. *Emplastrum plumbi semi-
vitrei*.

10. OINTMENT OF MYRTLE WAX. *Myrica ceri-
fera*. The United States.

The berries boiled, wax exudes.

11. OINTMENT OF ANDICOLA WAX. *Ceroxylon
andicola*. Wax palm of the Andes. Wax, from
the rings of the herb.

12. SILK HANDKERCHIEF.

Excellent dressing for blisters.

13. MUCILAGE OF GUM ARABIC.

INJECTIONS.

SUBDIVISION I.

ENEMAS,

In the order of their value.

Enemas should always be slowly introduced. The best syringe is a *bladder*. The quantity varies from half a pint to two pints, one pint being generally ample. More than two pints is liable to distend the intestine injuriously. In a majority of cases simple warm water is sufficient. Where irritants are added, a strict reference must be had to the existing irritability of the intestine, both as to the nature and the quantity of the irritant. The common addition of molasses, lard, etc., is of little, if of any use.

1. SIMPLE WARM WATER.

This, to take effect, must commonly be administered in the quantity of one or two pints.

2. CHLORIDE OF SODIUM, OR SULPHATE OF SODA, OR SULPHATE OF MAGNESIA, AND WATER.

3. SOLUTION OF CASTILE SOAP IN WATER.

The brown soap is very active.

4. OPIATE ENEMA.

R. Amyli decoctionis, ℥iv, tinct. opii gut. xxx.
M. R. Amyli decoc. aut aquæ, ℥iv, morphiæ
sulph. gr. $\frac{1}{2}$ ad $\frac{1}{2}$. M.

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5. ENEMA ALOES.

R. Aloes, ℥ij, carb. potassæ, grs. xv, aquæ, ℥viij aut x. M. For ascarides, etc.

6. ENEMA OF CASTOR OIL.

For ascarides.

7. OIL OF TURPENTINE ENEMA.

R. Oil of turpentine, ʒvj, yolk of egg. Rub together and add water, ℥xvj. For ascarides, colic, obstinate constipation, tympanites.

8. ENEMA OF COLOCYNTH.

R. Ext. colocynth compos. ℥ij, saponis mollis, ℥j, aquæ, ℥xvj. M. Powerful. In obstinate constipation, paralysis, etc.

9. FÆTID ENEMA.

R. Add to enema 1, 2, 3, or 4, tincture of asafœtida, ℥ij. Used in hysteria, flatulent colic, convulsions of children, etc.

SUBDIVISION II.

UTERINE INJECTIONS, ETC.,

In the order of their value.

1. COLD WATER, OR ICE.

In uterine hemorrhage after childbirth. (See *Local Astringents*, p. 161.)

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2. DECOCTION OF OAK BARK, AND ANALOGOUS AGENTS.

Hemorrhage, retention of placenta, prolapsus uteri, etc.

3. OINTMENT OF IODINE. Unguentum iodini.

℞. Iodin. grs. xv, ung. simp. ℥j. M. ℞. Iodin. grs. xv, potass. iodid. ℥ij, ung. simp. ℥iss. M. Half a drachm of either rubbed for 10 or 15 minutes, by means of the finger, or sponge, or camel's hair pencil, upon the cervix uteri, in its indurated states; with the internal use of iodine.

SUBDIVISION III.

VAGINAL INJECTIONS,

In the order of their value.

1. SOLUTION OF NITRATE OF SILVER.

℞. Nitrat. argent. grs. ij ad iv, aquæ destillat. ℥j. M. For leucorrhœa.

2. SOLUTION OF ACETATE OF LEAD.

℞. Acet. plumbi, grs. ij, aquæ destillat. ℥j. M. Gonorrhœa.

3. SOLUTION OF ACETATE OF ZINC.

℞. Acet. zinci, grs. ij, aquæ destillat. ℥j. M. For gonorrhœa.

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4. DECOCTION OF OAK BARK.

℞. Querci. robor. aut Q. albi, ʒss, aquæ; ʒxvj.
M. Coque; cole. Leucorrhœa.

5. INFUSION OF KINO, AND OTHER SIMPLE
ASTRINGENTS.

Hemorrhage, leucorrhœa, gleetæ, etc.

6. SOLUTION OF SULPHATE OF ZINC.

℞. Sulph. zinci, grs. ij, aquæ destillat. ʒj. M.
Gleetæ, etc.

7. SOLUTION OF CHLORIDE OF SODA.

℞. Liquor. sodæ chlorinatæ, ʒss ad ʒj, aquæ,
ʒij. M. In fœtid discharges.

SUBDIVISION IV.

URETHRAL INJECTIONS, ETC.,

In the order of their value.

1. SOLUTION OF ACETATE OF LEAD. As 2 of
sub. 3. Gonorrhœa.

2. SOLUTION OF ACETATE OF ZINC. As 3 of
sub. 3. Gonorrhœa.

3. SOLUTION OF SULPHATE OF ZINC. As 6 of
sub. 3. Gleetæ.

4. OLIVE OIL. In active inflammation of urethra.

5. BOUGIE. Strictures, gleet, etc.

6. SOLUTION OF SULPHATE OF COPPER. \mathcal{R} . cupri sulph. gr. j ad ij , aquæ destillat. $\mathfrak{z}\text{j}$. M. Gleet.

7. SOLUTION OF BICHLORIDE OF MERCURY. \mathcal{R} . Hydrarg. bichlorid. gr. $\frac{1}{2}$, aquæ destillat. $\mathfrak{z}\text{j}$. M. Gleet.

8. MILD OINTMENT OF THE NITRATE OF MERCURY. Ung. nitratis hydrargyri mitis. Applied on bougie, in gleet.

9. INFUSION OF KINO. Old gonorrhœa.

10. \mathcal{R} . Ferri sulphat. grs. iv ad x , aquæ destillat. $\mathfrak{z}\text{j}$. M. Gleet.

11. INFUSIONS of any of the *local astringents* of No. 10, p. 161, are employed in gleet.

••• HYDROCELE INJECTION. \mathcal{R} . Tinct. iodidi, $\mathfrak{z}\text{j}$. ad $\mathfrak{z}\text{ij}$, aquæ, $\mathfrak{z}\text{j}$. M. \mathcal{R} . Inject from $\mathfrak{z}\text{j}$. to \mathfrak{z} ss. according to the size of the hydrocele.

GARGLES,

And other Applications to the Mouth, Throat, and Trachea.

1. NITRATE OF SILVER. Nitras argenti. Solid. All ulcers of the throat, or mouth, or trachea.

2. MURIATIC ACID. *Acidum muriaticum*. Gargle. \mathcal{R} . *Acid. muriat. gut. xx ad xl, aquæ, ℥iv, rosæ conserv. 3ij. M. Filtrate.*

3. NITRIC ACID. *Acidum nitricum*. Applied concentrated to ulcers of throat.

4. SOLUTION OF CHLORIDE OF SODA. \mathcal{R} . *Liquor sodæ chlorinatæ, ℥ss, aquæ, ℥iv. M. Sloughing ulcers, salivation, &c.*

5. SOLUTION OF SULPHATE OF COPPER. \mathcal{R} . *Cupri sulph. gr. j ad ij, aquæ destillat. ℥j. M. In ulcerated and apthous mouths. Also, in solid form.*

6. SOLUTION OF SULPHATE OF ZINC. \mathcal{R} . *Zinci sulph. grs. ij, aquæ destillat. ℥j. M. In the apthous mouths of infants, without much inflammation. Put a few drops under the tongue. Very useful.*

7. SOLUTION OF ALUM. Unite with decoction of sage (*salvia officinalis*) and honey. Gargle.-

8. SOLUTION OF BORAX. *Sodæ biboras*. Same formula as 7.

9. MYRRH GARGLE.

\mathcal{R} . *Tinct. myrrhæ, ℥j ad 3ij, aquæ, ℥j. M. In ulcers.*

10. CORROSIVE SUBLIMATE GARGLE.

℞. Hydrarg. bichlorid. grs. ij, aquæ destillat. ℥j.
M. Venereal ulcers. Other ulcers of internal ear, etc.

11. GARGLE OF BICIANIDE OF MERCURY.

℞. Hydrarg. bicianidi, grs. ij ad grs. iij, aquæ destil. ℥iv. M. Same cases as 10.

12. GARGLE OF SUMACH. *Rhus glabrum*. Decoction of the berries.

Sore mouth from salivation. Also, for the same purpose, a solution of acetas plumbi.

13. PELLITORY OF SPAIN. *Anacyclus pyrethrum*. Barbary, Arabia. The root.

Chewed for neuralgia of face, palsy of tongue. A tincture for toothache.

14. CATECHU. *Acacia catechu*.

Chewed, in slight chronic inflammations, relaxed uvula, and slight ulcerations of mouth. Also, for the same purposes, gargles made of any one of the substances embraced in No. 10 of *Local Astringents*.

15. OINTMENT OF IODINE.

℞. Iodinii, grs. x, ung. simp. ℥ss. M. Applied to indurated tonsils; or, the tincture, by camel-hair pencil.

16. SOLUTION OF HYDRIODATE OF POTASH.

℞. Potass. hydriodat. grs. x, aquæ, ℥ij. M. An injection for discharges from the nose or ears.

17. VAPOR OF BOILING TAR.

Pulmonary phthisis. Their respiration clearly relieves the cough.

18. IODINE VAPOR.

Inhaled in phthisis and chronic bronchitis. Of doubtful effect.

℞. Iodin. grs. viij, potass. iodid. grs. iij, alcohol. ℥ss, aquæ destillat. ℥vss. One to six drachms, with or without 40 drops of the tincture of conium, are inhaled from an apparatus at 120 degrees Fahrenheit.

COLLYRIA,

And other applications to the eyes.

1. ℞. Acetatis plumbi, gr. i ad ij, aquæ destillat. ℥j. M. Active inflammation.

2. ℞. Acetatis plumbi, grs. viij, sulph. zinci, grs. v, aquæ destillat. ℥iv. M. Filtrate. As 1.

3. No. 1, cum opii infusione. As 1.

4. ARGENTI NITRAS. Solid and solution.

℞. A. n. gr. j ad ij, aquæ destillat. ℥j. Less active inflammation than 1, 2, or 3.

5. UNGUENTUM NITRATIS HYDRARGYRI.

Indolent inflamed eyelids. Variously diluted with simple ointment.

6. UNGUENTUM STRAMONII.

Active inflammation of lids.

7. \mathcal{R} . Ung. stramonii, \mathfrak{z} ss, hydrargyri ammoniati, grs. v ad x. M. Indolent inflammation of lids.

8. SULPHATE OF COPPER. Solid or solution.

\mathcal{R} . Cupri sulph. gr. $\frac{1}{2}$ ad j, aquæ destillat. \mathfrak{z} j. M. In chronic ophthalmia, and purulent ophthalmia of infants.

9. \mathcal{R} . Zinci sulph. gr. $\frac{1}{2}$ ad grs. ij, aquæ destillat. \mathfrak{z} j. M. Chronic ophthalmia.

10. LOTION OF IODINE.

\mathcal{R} . Iodin. gr. $\frac{1}{2}$ ad gr. $1\frac{1}{2}$, aquæ destillat. \mathfrak{z} iii. M. Strumous ophthalmia, ulcers, fistulæ, etc.

11. \mathcal{R} . Iodini, gr. $\frac{1}{2}$ ad gr. j, potass. iodid. grs. xx, aquæ destillat. \mathfrak{z} iij. M. \mathfrak{z} . Iodin. grs. vi, potass. iodid. grs. xv, unguenti simp. \mathfrak{z} j. M. In strumous ophthalmia, ulcers, etc.

12. LOTION OF IODIDE OF ZINC.

\mathcal{R} . Zinci iodid. grs. ij ad iij, aquæ destillat. \mathfrak{z} j. M. In strumous ophthalmia, ulcers, fistulæ, etc.

13. LOTION OF THE CHLORIDE OF BARYTES.

In scrofulous ophthalmia, etc.

14. \mathcal{R} . Hydrargyri biniodidi, grs. ij, unguenti simp. $\mathfrak{3ij}$. M. Opacity of cornea; obstinate inflammation of tarsi.

15. \mathcal{R} . Ferri sulphat. gr. j ad grs. ij, aquæ destillat. $\mathfrak{3j}$. M. Chronic ophthalmia.

16. STRYCHNIA.

\mathcal{R} . Strychniæ gr. $\frac{1}{2}$ ad grs. ij, acid. acetic. $\mathfrak{3ij}$, aquæ destillat. $\mathfrak{3ij}$. M. In amaurosis. One or two drops to the conjunctiva, three or four times a day.

17. BRUCIA.

\mathcal{R} . Bruciæ, grs. iv ad xvj, acid. acetic. $\mathfrak{3ij}$, aquæ destillat. $\mathfrak{3ij}$. M. Same as 16.

ORDER IX.

LOW DIET, AND REGIMEN.

These are negative, but amongst the most powerful of remedial means. By abstinence from all solid, or other indigestible and stimulating food, in inflammatory and febrile diseases, direct exciting causes are withheld, and nature is thus afforded an opportunity for the exercise of her recuperative efforts. When this intention is properly carried out, it is astonishing how much nature accomplishes without farther aid from art. It constitutes nearly

the whole system of French practice, which is chiefly the expectant plan. When associated, therefore, with absolute practice, it may be readily seen how it is that the odds are so greatly in favor of the United States when compared with the mortality of Europe; since, where the dietetic plan does not obtain, either a stimulant treatment of inflammations and fever, or a system of feeding associated with a very cautious antiphlogistic treatment, marks this *age of the physical and chemical doctrines of life, of the mechanical hypothesis of inflammation and fever, and of the humoral pathology in its ancient acceptance.*

There is a principle implanted in all animals which enables them to bear a degree of abstinence in disease which would be destructive in health. It is the *natural cure of animals*, but belongs equally to man. It is a part of the same principle which enables us to bear bloodletting, cathartics, emetics, etc., advantageously in disease, when they would be otherwise fatal. The principle is implanted in the constitution of the properties of life, for the preservation of the animal kingdom, and is therefore wisely ordained to be latent in health, but developed in proportion to the exigencies of disease. It is only a part, however, of an universal system which is designed to carry out the great final purposes of Providence in relation to His works, and whose display, however unobserved, is forever before us.

Next in importance to absolute diet, in acute diseases of any severity, is rest in a recumbent posture ; and next, is the absence of all unnecessary company.

SUBDIVISION I.

DIET

During the Existence of Acute Inflammation, or Fever.

1. BREAD WATER.

2. BARLEY WATER. *Hordeum distichium*. Hippocrates makes four degrees.

3. WEST INDIAN ARROW-ROOT. *Maranta arundinacea*.

EAST INDIAN ARROW-ROOT. *Curcuma angustifolia*.

4. TAPIOCA. Cassava plant. *Janipha manihot*.

5. SAGO. *Palmae* ; many species.

6. OATMEAL. *Avena sativa*. This should be made into a thin gruel, and strained.

7. RENNET WHEY. *Serum lactis*.

All jellies, lemonade, oranges, roasted apples, and what are commonly termed *refrigerants*, should be

rigorously excluded from a sick room, as adding to the suffering and the dangers from disease.

(See *Sedatives, Cold*, p. 123.)

SUBDIVISION II.

DIET

After subsidence of the foregoing diseases.

The arrangement is intended to indicate the order in which the food should be taken, in a general sense, during the progress of convalescence from the foregoing diseases, till full health becomes established. The whole of the series, excepting No. 1, is suited to the dyspeptic ; all other food and luxuries being excluded.

1. Simple broth. 2. Juice of meat, chewed. 3. Stale wheat bread. 4. Rice boiled in water. 5. Fresh laid eggs. Butter. 6. Fresh, lean venison, mutton, beef, lamb, roasted or broiled. 7. Oysters, milk, turkeys, chickens, land birds. 8. Light mealy potatoes. 9. Squash.

Finally, I would refer the inhabitants of all climates to the experimental facts related by Sir Benjamin Thompson, (Count Rumford), relative to the advantages and comfort of wearing flannel next to the skin, as contained in the Philosophical Transactions of the Royal Society for 1787, p. 240.

"I am astonished," he says, "that the custom of wearing flannel next the skin should not have prevailed more universally. I am confident it would prevent a multitude of diseases; and I know of no greater luxury than the comfortable sensation which arises from wearing it, especially after one is a little accustomed to it. It is a mistaken notion, that it is too warm a clothing for summer. I have worn it in the hottest climates, and in all seasons of the year, and never found the least inconvenience from it. It is the warm bath of a perspiration confined by a linen shirt, wet with sweat, which renders the summer heats of southern climates insupportable; but flannel promotes perspiration, and favors its evaporation; and evaporation, as is well known, produces positive cold."

In Rumford's experiments, 1000 parts of sheep's wool weighed 1163; 1000 of silk, 1107; 1000 of linen, 1082; 1000 of cotton wool, 1089, after an exposure of 72 hours in a damp cellar.

The subjects embraced under this order of remedies might be incomplete, did I not advert to the importance of early exercise in the open air, after the subsidence of disease, to recreation of mind and agreeable employment, and, in chronic affections, to change of climate.

CLASS II.—PERMANENT TONICS,

In the order of their value.

These remedies are wholly overrated, and what is often consigned to their supposed health-making virtues, can only be accomplished by antiphlogistic remedies, by diet, rest, or exercise.

This and the next following class of agents embrace the destructive weapons of the physical and stimulant schools of medicine.

How do tonics and stimulants operate? Certainly as alteratives, and directly upon the properties of life. They may therefore alter them injuriously as well as favourably; from which it is obvious that the changes must be for the worse, when those agents are employed where antiphlogistics are required.

The prominent distinction between tonics and stimulants is, that the former produce their influences more slowly, and generally more permanently and profoundly, than the latter. The most active of the diffusible stimulants, however, as alcoholic liquors, are more injuriously alterative (or morbid) than the tonics.

When are tonics and stimulants indicated? Only after prolonged disease; rarely when of an acute nature. In chronic diseases, mainly for the purpose of improving some prostrate state of the stomach, and thus removing its morbid sympathetic influences,

and simultaneously substituting others of a salubrious nature.

After prolonged fevers, especially the true typhus, the vegetable tonics, and stimulants, particularly the vinous, may be very important. But this is not apt to happen, if the early stages of these affections have been properly treated; and even then, the necessity of resorting to tonics is an inauspicious omen. The ferruginous tonics are adapted to chronic forms of disease, as are also the vegetable substances.

The tonics and stimulants may be variously combined, and with each other, and 3^a, 4^a, 6^a, 6^b, 7, 8, 9, 10, 11, 12, 12^a, 12^c, 12^d, 13, 13^a, 21, 27 $\frac{1}{2}$, 30, 34, 35, of the cathartics may be usefully added to the tonics, especially the vegetable, when the bowels are constipated. Antimonials may be combined when indicated by fever or inflammation.

The tonics may be repeated from twice to four times a day, in chronic disease, and more frequently in prostrated states consequent upon acute disease.

When speaking of the action of metallic gold, silver, and quicksilver, upon the human system, I inquired whether, especially, the first two substances had been "detected in the circulation," or in any part of the living organism, with the view to a right understanding of the *modus operandi* of remedial and morbid agents, and of placing this most important subject upon that philosophical ground which is demanded by physiology, and by Unity of Design.

We now approach a class of remedies which embrace other metals of easy detection, and some of which must be given in very large quantities to produce any useful effect. Now, have these been detected in any unusual ratio within the organism? Have Mr. Brande, and others, who could find no iron in the natural blood, succeeded any better where ounces of this substance have been taken into the stomach? Will it be pretended that the natural ratio is truly increased under any circumstances? Will the humoral philosopher expound the reason why the sulphate of iron produces a greater impression upon the system in doses of one to five grains, than the sesquioxide does in doses of a hundred grains,—bearing in mind that the sulphate must be converted into an oxide as soon as it comes in contact with the blood? Why are such vast quantities of one substance necessary, and so little of the other? Why should not the supposed requisite absorption take place as well from doses of half a drachm of the sesquioxide of iron, repeated every four hours, as from two drachms; and how does this latter dose remove *tic douloureux*, when the former will not?

The researches and doctrines of Haller, Prochaska, Whytt, Philip, Reid, Hall, Sir C. Bell, Müller, and Valentin, as to the "*vis insita*," or organic force, and the "*vis nervosa*," with its wonderful attributes, being fully before the world, I feel an increasing

confidence in the doctrines which I have set forth in the "Medical and Physiological Commentaries," in my "Introductory Address," in my "Examination of Reviews," and in my "Reply to an Attack on my Essay on the Principal Writings of P.Ch. A. Louis, M. D." To the indomitable and enlightened efforts of Marshall Hall, especially, we may continue to look with a confident hope, that the whole subject of sympathy will be placed upon such anatomical and physiological grounds as forever to interpose a barrier between the philosophy which relates to organic and inorganic beings.

1. CINCHONA.

Its various preparations. (See p. 105.) May be employed in about the same doses as there indicated.

2. GENTIAN. *Gentiana lutea*. Austria, Switzerland. The root.

(a.) \mathcal{R} . Gentian. 3ij, orange-peel, 3ij, boiling water, \mathfrak{z} xij. M. Macerate. Strain. *Dose.* — \mathfrak{z} j to \mathfrak{z} ij. \mathcal{R} . Gen. class 1, order 2, 12, or 13, class 3, 7th. M. Tonic and cathartic infusion.

(b.) *Tinctura gentianæ composita*. *Dose.* — 3ss to 3ij.

(c.) *Extractum gentianæ*. *Dose.* — grs. x to 3ss.

(d.) *Gentianina, proximate*. \mathcal{R} . Gentian. grs. xvj,

alcohol. $\frac{3}{4}$ j. M. *Dose.* — 3ss to 3ij, twice or thrice daily. Effects like the tincture.

3. BLUE GENTIAN. *Gentiana Catesbæi*. Southern States. The root.

Very similar to 2. Formulæ and doses the same.

4. TARTRATE OF POTASH AND IRON. *Potassæ ferro-tartras*. *Dose.* — grs. x. to 3ss, in solution or bolus.

5. TINCTURE OF MURIATE OF IRON. *Tinctura ferri muriatis*, or, *tinctura ferri sesquichloridi*. *Dose.* — Ten to thirty drops, gradually increased to 3j or 3ii. (See *Astringents*.)

6. PREPARED CARBONATE OF IRON. RED OXIDE OF IRON. *Ferri sesquioxidum*.

As a tonic. *Dose.* — grs. x to 3ij. Employed for tic-douloureux, and other neuralgic affections, in doses of 3ss to 3ss.

7. GRIFFITH MYRRH MIXTURE. *Mistura ferri composita*.

\mathcal{R} . Myrrh. 3j, carb. potass. 3ss, aquæ, $\frac{3}{4}$ x, sulph. ferri, grs. xxv, spirit. myristicæ, 3vj, sacch. alb. 3j. M. *Dose.* — Of mixture, 3ss to 3ij, three or four times a day. May be also made into pills.

8. PHOSPHATE OF IRON. *Phosphas ferri.*

Dose. — grs. v. to x.

9. SULPHATE OF IRON. *Ferri sulphas.*

Dose. — gr. j to grs. v, in form of pills. May gripe. (See 7.)

R. F. s. class 1, order 4, A, 21 or 22. Class 4, order 2, 5, or order 1, 16, or 17, or 19.

10. BLACK OXIDE OF IRON. *Ferri oxydum nigrum.*

Dose. — grs. v. to xx.

11. ACETATE OF IRON. *Ferri acetas.*

Dose. — Ten to twenty-five drops.

(a.) *Ferri acetatis tinctura.* *Dose.* — 3ss to 3j.

11½. FERRO-TARTRATE OF AMMONIA. *Ammonias ferro-tartras.*

Dose. — grs. iv to vj, in pill or solution.

12. BROMIDE OF IRON. *Ferri bromidum.*

Dose. — gr. ½ to gr. j, in pill. *Scrofula, chlorosis,* etc. (See p. 82)

13. IODIDE OF IRON. *Ferri iodidum.*

Dose. — grs. iij, gradually increased to viij or x, in tincture or aqueous solution. (See p. 79.)

In same cases as 12.

14. AMMONIO-CHLORIDE OF IRON. *Ferri ammonio-chloridum.*

Dose. — grs. iv to xij, in substance.

15. MYRRH. *Balsamodendron myrrha.* Arabia Felix. Gum-resin. Commonly associated with the chalybeates, or with aloes, or rhubarb.

Dose. — grs. v to 3ss, in pill, powder, or emulsion.

(a.) *Tinctura myrrhæ.* *Dose.* — 3ss to 3i. Seldom used.

16. COLOMBO. *Cocculus palmatus.* Mozambique. The root.

℞. Col. 3ij, boiling water, ℥viij. M. Macerate; strain. *Dose.* — Of infusion, ℥j to ℥ij. May be associated with chalybeates, alkalies, or other tonics.

(a.) *Tinctura Columbæ.* *Dose.* — 3j to 3ij. "An excellent adjunct to bitter infusions, and to effervescing medicines, when given to check vomiting." — *Pereira.*

17. QUASSIA. *Quassia excelsa*, or *picræna excelsa.* Jamaica. The wood.

℞. Quassia, ʒj, boiling water, ℥viij. M. Macerate; strain. *Dose.* — Of infusion, ℥j to ℥iij. May be combined with the chalybeates. A fly poison.

(a.) *Tinctura quassiæ.* *Dose.* — 3ss to 3ij.

(b.) *Tinctura quassiæ composita.* *Dose.* — 3ss to 3ij.

18. VIRGINIA SNAKE ROOT. *Aristolochia serpentaria*. United States. The root.

Dose.—Gr̄s. x. to 3ss. Infusion best, and often combined with other bitters.

(a.) *Tinctura serpentariæ*.

Dose. — 3j to 3ij. To be added to tonic infusions.

(See p. 110.)

19. CHIRETTA. *Agathotes chirayta*.

(See p. 110 for dose, etc.)

20. WILD COLOMBO. *Frasera walteri*. United States. The root.

Dose. — 3ss to 3j. R̄. The root, 3ss, boiling water, 3viij. M. Macerate.—*Dose*.—Of infusion, 3j to 3ij.

21. MAGNOLIA. *Magnolia glauca*.— Other species.

(See p. 108 for dose, etc.)

22. AMERICAN DOGWOOD. *Cornus florida*. 23. C. *circinata*. 24. C. *sericea*.

(See p. 109 for doses, etc.)

25. EUROPEAN CENTAURY. *Erythræa centaurium*. Europe. Flower and leaves.

Dose. — 3j to 3j. Also, in infusion.

26. TULIP TREE. *Liriodendron tulipifera*.

(See p. 140 for dose, etc.)

27. AROMATIC SULPHURIC ACID. Acidum sulphuricum aromaticum.

Dose. — 10 to 30 drops, in a wine-glass of water.

28. SULPHURIC ACID DILUTED. Acidum sulphuricum dilutum.

Dose. — Same as 27. Added to tonic infusions, especially of cinchona.

29. NITRIC ACID. Acidum nitricum.

Dose. — 5 to 20 drops, in a wine-glass or more of water.

30. CHAMOMILE. Anthemis nobilis. Europe. The flowers.

Dose. — Of powder, 3 ss to 3 j. An infusion is best.

31. BITTER ORANGE PEEL. Citrus vulgaris, or, C. aurantium. China, India. Cultivated. Rind of the fruit.

Dose. — 3 ss to 3 j. Generally combined with 1, or 2, or 16, or 17, etc.

(a.) Syrupus aurantii corticis. Agreeable flavor.

(b.) Tinctura aurant. cort. Like the syrup, an agreeable addition to bitter infusions.

32. FERRUGINOUS AND IODURETTED MINERAL WATERS. Tunbridge, Brighton, Harrowgate, Cheltenham, Belgium Spa, Islington Spa, Ballston, (Saus Souci,) Bedford, (Anderson's Spring,) Saratoga (Congress, etc.,) Springs. (See pp. 42, 79, for other waters.)

33. WILLOW. *Salix alba*, and other species.

(See p. 109 for dose, etc.)

34. THOROUGHWORT. *Eupatorium perfoliatum*.

(See p. 44 for dose, etc.)

35. WILD HOREHOUND. *Eupatorium teucrifolium*.

United States. As 34.

36. RHUBARB. *Rheum palmatum*.

Dose. — Grs. j to v, once or twice daily, or with other tonics. (See p. 37.)

(a.) *Tinctura rhei*. *Dose*. — ʒj to 3j. Used as a tonic in dyspepsy, and in the scrofula of children.

37. CASCARILLA. *Croton eleuteria*. Jamaica, Bahama Islands. The bark.

Dose. — Of powder, grs. x to ʒ ss. Infusion best.

℞. Casc. ʒ ss, boiling water, ʒ viij. Macerate; strain.

Dose. — ʒj to ʒ ij. The tincture is generally added.

(a.) *Tinctura cascarillæ*. *Dose*. — 3j to 3 ij.

• Usually added to other tonic infusions.

38. WINTERGREEN. *Chimaphilla umbellata*.

(See p. 86 for dose, etc.)

39. WILD CHERRY BARK. *Prunus virginiana*.

(See p. 111 for dose, etc.)

40. BITTER POLYGALA. *Polygala rubella*. The United States. The plant.

Tonic, laxative, and diaphoretic. Like the *P. amara* of Europe. Infusion like No. 37.

41. HARDHACK. *Spiræa tomentosa*. The United States. The root.

Dose. — Of extract, grs. v to xx. Also, decoction. *R.* Plant, $\frac{3}{4}$ j, water, $\frac{1}{2}$ j; *M.* *Dose*. — $\frac{3}{4}$ j to $\frac{3}{4}$ ij. 3 or 4 times a day.

42. FALSE COLOMBO, YELLOW ROOT. *Canella alba*. West Indies, etc. The bark. Aromatic tonic.

Dose. — Of powder, grs. x to 3 ss. Generally combined with aloes, gentian, etc.

43. BITTER SIMARUBA. MOUNTAIN DAMSON. *Simaruba amara*. Guiana. The bark of root.

Causes vomiting and purging in full doses. In small, tonic. Once celebrated in chronic dysentery, and advanced stages of diarrhœa. Seldom used. Infusion and dose, as No. 37.

44. AMERICAN CENTAURY. *Sabbatia angularis*. (See p. 111, No. 33, for dose, etc.)

45. ANGUSTURA BARK. *Bonplandia trifoliata*. (See p. 110, No. 29, for dose, etc.)

46. YELLOW ROOT. *Xanthorhiza apiifolia*. United States. The root. Like colombo, etc.

Dose. — Of powder, 3ss to ℥ij. Infusion as 37.

47. CANADA SNAKE-ROOT. WILD GINGER. *Asarum canadense*. United States. The root. Stimulant tonic. Diaphoretic.

Dose. — Of powder, grs. xx to 3ss. Infusion same as 37. Like serpentaria, and may be combined and used in like manner. (See p. 110, No. 31.)

48. BLACK ALDER. *Prinos verticillatus*. United States. The bark.

Dose. — Of powder, 3ss to 3j. Decoction as infusion 37.

49. WINTER'S BARK. *Drymis winteri*. South America. The bark.

Stimulant aromatic tonic. *Dose.* — 3ss.

50. HOPS. *Humulus lupulus*.

(See p. 124, No. 10, for dose, etc.)

51. STAR GRASS. *Aletris farinosa*. United States. The root.

Dose. — Of powder, grs. x to xx. Nauseates in large doses.

52. SULPHATE OF ZINC. *Sulphas zinci*.

Emetic, tonic, astringent. *Dose.* — gr. $\frac{1}{2}$ to $\frac{1}{4}$. (See pp. 56, 112.)

53. SULPHATE OF COPPER. Cupri sulphas.

Emetic, tonic, astringent. *Dose.* — gr. $\frac{1}{4}$, gradually increased.

54. BUCK BEAN. Menyanthes trifoliata. The root.

Dose. — Of powder, \mathfrak{z} j to 3 ss. *Dose.* — Of extract, grs. x to xv. Infusion as No. 20. (See p. 48, No. 37.)

55. BLESSED THISTLE. Cnicus benedictus, or, Centaurea benedicta. Europe, Persia. The leaves. An infusion like No. 20.

56. FEVERFEW. Pyrethrum parthenium. Europe. The plant.

Preparation as No. 20.

57. SUBNITRATE OF BISMUTH; TRISNITRATE OF BISMUTH. Bismuthi trisnitrates.

Dose. — grs. v to \mathfrak{z} ij, in pill.

58. NITRATE OF SILVER. Nitras argenti.

Dose. — gr. $\frac{1}{4}$, gradually increased to 3 or 4 grains, three times a day.

59. AMMONIATED COPPER. Ammonia cupro-sulphas.

Dose. — gr. $\frac{1}{4}$, gradually increased to 4 or 5 grains, two or three times a day.

OBSOLETE.

60. Inula helenium. 61. Dorstenia contrayerva.

62. *Anthemis cotula*. 63. *Artemisia absinthium*.
64. *Tanacetum vulgare*. 65. *Marrubium vulgare*.
66. *Cetraria islandica*. 67. *Coptis trifoliata*. 68.
Cupri acet.
-

CLASS III.—STIMULANTS AND AROMATICS,

In the order of their value.

See remarks prefatory to tonics. The vegetable stimulants and aromatics are generally employed in connection with tonics and cathartics, to improve their operation.

1. WINE. 2. BRANDY. 3. PORTER. 3½. WINE
WHEY.

4. DILUTE WATER OF AMMONIA. *Aqua ammoniæ diluta*.

Dose. — 15 to 25 drops.

5. CARBONATE OF AMMONIA. *Ammoniæ carbonas*.

Dose. — grs. v to x. May be repeated, like 5, every hour, to four hours.

6. SPIRIT OF AROMATIC AMMONIA. *Alcohol ammoniatum aromaticum*.

Dose. — 20 to 60 drops.

7. **CARDAMOM.** *Amomum cardamomum*. Java, Sumatra, etc. The seeds. Other species.

Seeds added to tonic infusions, and to cathartics, as also the following tinctures.

(a.) *Tinctura cardamomi compos.* *Dose.*— 3j to 3ij.

(b.) *Tinctura cardamomi.* Same dose.

8. **CEYLON CARDAMOM.** *Elettaria cardamomum*. Similar to 7.

9. **CINNAMON.** *Cinnamomum zeylanicum*, or *laurus cinnamomum*. Ceylon, Java. The bark.

Dose.—Of powder, grs. x to 3ss.

(a.) *Oleum cinnamomi.* *Dose.*—One to three drops.

(b.) *Aqua cinnamomi.* A vehicle for other medicines.

(c.) *Tinctura cinnamomi.* *Dose.*— 3j to 3ss.

(d.) *Tinctura cinnamomi composita.* *Dose.*— 3j to 3ij.

(e.) *Spiritus cinnamomi.* *Dose.*— 3j to 3iv.

10. **CASSIA CINNAMON.** *Cinnamomum cassia*. China, Ceylon. The bark.

Preparations and doses the same as 9.

11. **PEPPERMINT.** *Mentha piperita*. Europe. Introduced. The plant.

(a.) Oleum, *M. piperitæ*. *Dose*. — One to five drops.

(b.) Spiritus *M. piperitæ*. *Dose*. — Twenty to thirty drops.

(c.) Aqua *M. piperitæ*. *Dose*. — ʒj to ʒij.

12. ANISE. *Pimpinella anisum*. Egypt. Levant. The seeds.

(a.) Oleum anisi. *Dose*. — Five to ten drops.

(b.) Spiritus anisi. *Dose*. — ʒj to ʒij.

(c.) Aqua anisi. A vehicle, etc.

13. STAR ANISE. *Illicium anisatum*. China, Japan. Seeds.

Like 12.

14. CLOVES. *Eugenia caryophyllata*, or *caryophyllus aromaticus*. Molucca Islands.

(a.) *Gemmæ florales*. *Dose*. — grs. v to grs. xx.

(b.) Oleum *caryophylli*. *Dose*. — Two to six drops.

(c.) *Tinctura caryophylli*. *Dose*. — Ten drops to ʒj.

15. LAVENDER. *Lavandula spica*, or *vera*. Europe. The flowers.

(a.) Oleum *lavandulæ*. *Dose*. — One to five drops.

(b.) Spiritus *lavandulæ*. *Dose*. — ʒj to ʒij.

(c.) *Tinctura lavandulæ*. *Dose*. — ʒi to ʒij.

16. SULPHURIC ETHER. *Æther sulphuricus*.

Powerful and transient stimulant. In cramp of stomach, hysteria, sea sickness, flatulent colic.

Dose. — 3ss to 3ij.

17. SPEARMINT. *Mentha viridis*. Europe.

Same preparations as of 11.

18. CORIANDER. *Coriandrum sativum*. Italy.19. GINGER. *Zingiber officinale*. Hindostan.

The root.

(a.) *Tinctura zingiberis*.

20. SWEET FLAG. *Acorus calamus*. The United States. The root and tincture.

21. NUTMEG. *Myristica moschata*. Molucca Islands, etc. The nuts or kernels, and involucre or mace.

Dose. — ʒj to 3ss.

(a.) *Oleum myristicæ*. *Dose.* — One to four drops.

(b.) *Spiritus myristicæ*. *Dose.* — 3j to 3iv.

22. CAPSICUM. *Capsicum annum*. America. The berries.

Dose.—Of powder, grs. v to x, in pills.

(a.) Tinctura capsici. *Dose.*—Ten drops to ℥ij.

23. COMMON ALLSPICE. *Eugenia pimenta*, or *myrtus pimenta*. West Indies. The unripe berries.

Dose.—Of powder, grs. x to 3j.

(a.) Oleum pimentæ. *Dose.*—Two to six drops.

(b.) Spiritus pimentæ. *Dose.*—3j to 3iv.

(c.) Aqua pimentæ. *Dose.*—℥j to ℥ij.

24. CARAWAY. *Carum carui*.

(a.) Oleum carui. *Dose.*—One to ten drops.

(b.) Spiritus carui, 3j to 3iv.

(c.) Aqua carui, a vehicle for purgatives.

25. SASSAFRAS. *Sassafras officinale*. United States. The root.

Dose.—Of oil of sassafras, two to ten drops. Infusion. Generally added to sarsaparilla and guaiacum.

26. PENNYROYAL. *Mentha pulegium*. Europe, North and South America. The herb.

(a.) Oleum M. pulegii. *Dose.*—One to five drops.

(b.) Spiritus M. pulegii. *Dose.*—3ss to 3ij.

(c.) Aqua pulegii. *Dose.*—3j to ℥j.

27. PARTRIDGE BERRY. *Gaultheria procumbens*. United States. The leaves. Oil and infusion.

28. SWEET-SCENTED GOLDEN ROD. *Solidago odora*. United States. The leaves. A mild aromatic stimulant.

29. TURMERIC. *Curcuma longa*. 30. GALANGAL. *Alpinia galanga*. 31. SWEET FENNEL. *Foeniculum dulce*. 32. COMMON MARJORAM. *Origanum vulgare*. 33. ROSEMARY. *Rosmarinus officinalis*. 34. GARDEN DILL. *Anethum graveolens*. 35. SWEET MARJORAM. *Marjorana hortensis*. 36. BLACK PEPPER. *Piper nigrum*. 37. SAFFRON. *Crocus sativus*. 38. COMMON BALM. *Melissa officinalis*. 39. CATMINT. *Nepeta cataria*. 40. PHOSPHORUS.

CLASS IV.—CEREBRO-SPINANTS, OR
NERVOUS AGENTS.

ORDERS.

1. Narcotics.
2. Antispasmodics.
3. Tetanics, or cerebro-spino-excitants.
4. Moto-paralysants.
5. Senso-paralysants.
6. Cerebro-spino-depressants.
7. Doubtful nervous alterants.

ORDER I.

NARCOTICS,

In the order of their value.

The effect of these agents generally decreases, in its relation to each one respectively, when frequently repeated, or habitually employed at more distant intervals. But the organic properties, as in their relation to all vital stimuli, whether remedial or morbid, maintain their susceptibility to all narcotics except the one in use, and it is therefore often necessary to change from one to another, or to employ two or more in combination. This obtuseness of irritability, which is also seen in respect to tartarized antimony, and other agents, proves that remedies operate upon the system sympathetically, by impressions made upon the organic properties of the stomach.

OPIMUM. Papaver somniferum. Smyrna opium. Constantinople opium. Egyptian opium. Persian opium. Indian, or Bengal opium. English opium. French opium.

Proximates. — Morphia, narcotina, codeia, thebain, narcein, meconin, meconic acid.

1. SULPHATE OF MORPHIA. Morphiæ sulphas.

Dose. — gr. $\frac{1}{4}$ to $\frac{1}{2}$. ℞. Morphiæ sulph. grs. viij,

aquæ destillat. ℥ss, acid. acetici, gut. iv. M.
Dose. — 6 to 20 drops. One drop is equivalent to two and a half drops of laudanum.

This, and the following preparations of morphia, are mostly employed to relieve pain, allay morbid irritability of the intestinal canal, and to procure rest. They are greatly exempt from the constipating and often injurious effects of opium. All the preparations of opium must be gradually increased to produce their original effects as *narcotics*.

Their operation is also astonishingly influenced by particular states of the nervous system, as shown by the great quantities that are borne in delirium-a-potu, and in painful affections, without inducing sleep, or the usual unpleasant effects of opium. Thus, 100 drops of laudanum (tinct. opii) may be given at a dose in cramp of stomach, and repeated, if necessary; and greater quantities have been exhibited in the "brain fever of drunkenness." And here it is *apropos* to observe, that if opium produce its effects upon the brain by absorption, then should it aggravate the cerebral congestion of *mania-a-potu*. (See my *Med. and Physiolog. Comm.*, vol. ii., pp. 480-487.)

All the narcotics are sedative, under favorable circumstances. That congestion, or increased inflammation, may follow their exhibition, does not imply a *stimulant* effect. (See *Sedatives*.)

2. MURIATE OF MORPHIA. *Morphiæ hydrochloras.*
M. murias.

R. Morph. mur. grs. viij, alcohol. 3 ss. *M.* *Dose.*
— 10 to 30 drops.

3. ACETATE OF MORPHIA. *Morphiæ acetas.*

R. Morph. acet. grs. viij, aquæ destillat., 3 iij,
acid. acetici, 3j. *M.* *Dose.* — 6 to 25 drops.
(*Dunghlison.*)

4. MORPHIÆ TARTRAS. 5. MORPHIÆ BIMECO-
NAS. 6. MORPHIÆ CITRAS. 7. MORPHIA. *Doses.* —
About the same as the preceding.

These are probably rendered unnecessary by the
three preceding preparations. Indeed, it is proba-
ble that the sulphate of morphia answers every inten-
tion better than the subsequent preparations.

8. OPIUM. Perhaps always improper where
bloodletting is indicated, unless in intestinal inflam-
mation. But, it may often follow adequate bloodlet-
ting, in other inflammations, with the most important
advantage, as in pneumonia; rarely in affections
of the head, or hepatic inflammations. (See my
Comm., vol. ii., p. 485-486.) The sulphate of mor-
phia, however, is preferable, excepting where the
astringent effect of opium upon the intestines is
wanted.

Average dose, 1 grain; ranges from $\frac{1}{4}$ to 5 grains.

9. VINEGAR OF OPIUM. *Opii acetum*. Intermediate between opium and morphia.

Dose.—5 to 30 drops. One drop equal to one and a half of tincture of opium.

10. PURIFIED EXTRACT OF OPIUM. *Extractum opii purificatum*. Effects similar to 9. Like Bat-
tley's *Liquor opii sedativus*.

Dose.—Gr. $\frac{1}{4}$ to grs. iij, or iv.

11. LAUDANUM. *Tinctura opii*. Similar to 8. Thirteen minims, or 25 drops, contain a grain of opium.

Dose.—10 drops to 120.

12. ELIXIR PAREGORIC. *Tinctura opii campho-
rata*. Nearly one grain of opium in f. 3 iv.

Dose.—3 i to 3 ij.

13. COMPOUND POWDER OF IPECACUANHA. DO-
VER'S POWDER. *Pulvis ipecacuanha et opii*.

Dose.—Grs. v to xv. (See p. 73, No. 24.)

14. WINE OF OPIUM. SYDENHAM'S LAUDANUM.
Vinum opii.

Dose.—Same as of tincture.

15. AMMONIATED TINCTURE OF OPIUM. *Tinc-
tura opii ammoniata*. One drachm and a quarter con-

tains about a grain of opium. In spasmodic affections, (whooping cough,) as a narcotico-stimulant.

Dose. — 3ss to 3j.

16. HENBANE. *Hyosciamus niger*.

(See p. 122, No. 3, for dose, etc.)

17. LACTUCARIUM. *Lactuca sativa*.

Dose. — grs. iij to v, or more.

17½. HOFFMAN'S ANODYNE LIQUOR. *Spiritus ætheris sulphurici compositus*.

Dose. — 3ss to 3ij. Agreeably anodyne.

18. HOPS. *Humulus lupulus*.

(See p. 124, No. 10, for dose, etc.)

19. POISON HEMLOCK. *Conium maculatum*. Especially useful in the habitual gastric distress of dyspepsy.

(See p. 87, No. 26, for dose, etc.)

20. BELLADONNA. DEADLY NIGHTSHADE. *Atropa belladonna*. Europe. The leaves and root.

Fails of relieving the pain to which the foregoing remedies are adapted, whilst, unlike those, it often abates or removes neuralgia, tic douloureux, etc. Also, in rigidity of the os uteri; diseases of eyes; epilepsy, mania, hysteria, chorea, etc.

Dose. — Of powder, gr. j, gradually increased.

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(a.) *Extractum belladonnæ.* *Dose.* — gr. j, to grs. v, carefully increased.

(b.) *Tinctura belladonnæ.* *Dose.* — 20 to 50 drops. (See *Index.*)

21. STRAMONIUM. *Datura stramonium.* In neuralgia, mania, epilepsy, rheumatism, internally. ♀

Dose. — Of leaves, gr. j; of seeds, gr. $\frac{1}{2}$; of extract, gr. $\frac{1}{4}$, gradually increased, twice or thrice a day. (See *Index.*)

22. BUGLE WEED. *Lycopus virginicus.* United States. The herb.

Mildly anodyne. Infusion drank freely, in phthisis, etc.

ORDER II.

ANTISPASMODICS,

In the order of their value.

These remedies are often applied where blood-letting, or cathartics, or emetics, are alone appropriate, or should precede the antispasmodics. They may be generally very advantageously combined with each other.

1. ALL THE NARCOTICS, AND IN THEIR ORDER.

2. SULPHURIC ETHER. *Æther sulphuricum*.

Dose. — 3ss to 3ij. (See *Index*.)

3. HOFFMAN'S ANODYNE LIQUOR. *Spiritus ætheris sulphurici compositus*.

Dose. — 3ss to 3ij.

4. ASAFÆTIDA. *Ferula asafœtida*. Persia. The gum-resin.

In hysteria, pure spasmodic asthma, "epilepsy" ?

Dose. — grs. v to xx, in pill.

R. A. emuls., class 3, 26.*

(a.) *Tinctura asafœtidæ*. *Dose.* — 3ss to 3ij.

5. CAMPHOR. *Laurus camphora*, or camphora officinarum. China, Japan.

Hysteria, spasmodic cough, chronic rheumatism and gout, chorea. *Dose.* — gr. j to ʒj, in emulsion. Twenty grains are safe, but the dose should not exceed that quantity.

(a.) *Tinctura camphoræ*. *Dose.* — Ten drops to 3j.

(b.) *Mistura camphoræ*. *Dose.* — 3ss to 3ij. (See order 1, 12.)

6. CASTOR. *Castor fiber*. The beaver. Russian castor, very rare. American castor. A secretion from the præputial follicles.

In hysteria, epilepsy. Overrated, but placed here in consequence. *Dose.* — 3j to 3ij, in pills or powder.

(a.) *Tinctura castorei*. Two ounces of this tincture, as directed by the United States' and other pharmacopœias, would be necessary for a moderate dose of castor, or 3j, which would be equivalent to two ounces of alcohol. The tincture is therefore useless.

7. **MUSK.** *Moschus moschiferus*. The musk animal. Asia, Himalayan ranges, China, Tartary, Siberia, etc. A concrete secretion in the præputial follicles.

In hysteria, tetanus, epilepsy. Overrated.

Dose. — grs. vj to xvj, in bolus, or mixture.

(a.) *Tinctura moschi*. Same objection as to 6*.

An artificial musk is prepared which may be employed as a substitute for the natural. Is used in whooping cough. *Dose.* — The same, or more.

8. **ACETIC ETHER.** *Æther aceticum*.

Dose. — Fifteen to forty drops, in water.

9. **SKUNK CABBAGE.** *Dracontium foetidum*. *Ictodes foetidus*. The United States. The root.

Stimulant, antispasmodic, and narcotic.

Dose. — Of powder, grs. x to xx. Or, decoction.

9½. **CYANIDE OF POTASSIUM.** *Potassii cyanidum*. (See p. 102, No. 11, for dose, etc.)

Also, \mathcal{R} . Potass. cyanid. grs. vj, micæ panis, grs. vj. *M.* Divid. in pil. xij. One pill, two or three times a day, in spasmodic asthma, hysteria, etc.

10. CYANIDE OF ZINC. *Zinci cyanidum.*

(See p. 122, No. 6, for dose, etc.) In same cases as 7 and 9½.

10½. FERROCYANIDE OF ZINC. *Zinci ferrocyanidum.*

(See p. 123, No. 6½, for dose, etc.) In same cases as 7 and 9½.

11. VALERIAN. *Valeriana officinalis.* Europe. The root.

In hysteria, hypochondriasm, chorea. *Dose.* — Of powder, 3ss to 3iss. Also infusion. Same objection to the tincture as to 6°. *Dose.* — Of the ammoniated tincture, 3j to 3ij.

12. GALBANUM. *Galbanum officinale.* The gum-resin.

Dose. — grs. x to 3ss, in pills, or emulsion.

12½. TINCTURE OF MURIATE OF IRON. *Tinctura ferri sesquichloridi.*

In retention of urine from spasmodic stricture. *Dose.* — Twelve drops every ten or fifteen minutes, till nausea is produced, if necessary.

13. CREASOTE. Creasoton, or flesh-preserver.

In hysteria, vomiting, and neuralgia. Overrated.

Dose.—One to two drops, in mucilage, gradually increased to five or ten.

14. CUPRO-SULPHATE OF AMMONIA. Ammonia cupro-sulphas.

In hysteria, epilepsy, cramp of stomach, spasmodic asthma, whooping cough, chorea. *Dose.*—gr. $\frac{1}{2}$, gradually increased to grs. iv or v, in pills.

15. NITRATE OF SILVER. Argenti nitras.

In epilepsy, chorea, chronic vomiting. *Dose.*—gr. $\frac{1}{2}$, gradually increased to 3 or 4 grains, thrice a day.

16. SULPHATE OF ZINC. Zinci sulphas.

Same cases as 14. Overrated. *Dose.*—gr. j to v.

17. SULPHATE OF COPPER. Cupri sulphas.

Epilepsy, chorea. Overrated. *Dose.*—gr. $\frac{1}{4}$, gradually increased.

18. COLCHICUM. Colchicum autumnale.

In same cases as 11. (See p. 97, for dose, etc.)}

19. INDIGO. Indigofera tinctoria. East Indies.

In epilepsy, hysteria, chorea, convulsions of children, whooping cough. Overrated. *Dose.*—Of powder, ℥j, gradually increased to ʒj, 2 or 3 times a day. May be long continued.

20. HYDROCYANIC ACID. Acidum hydrocyanicum.
In same cases as 19. Overrated. (See p. 122, for dose.)

21. HYDROCYANIC ETHER. Æther hydrocyanicus.
Odor nauseous. Effects like 20. In same cases.
Dose. — The same as of *medicinal* hydrocyanic acid, or rather more. (See p. 122, No. 4.)

21½. MUGWORT. Artemisia vulgaris. Europe.
United States. The root.

An old remedy for epilepsy, revived and extolled in Germany. *Dose.* — Of powder, 3j; before the paroxysm; or strong decoction, or extract; repeated every hour or two.

22. OXIDE OF ZINC. Zinci oxidum.
In same cases as 14. *Dose.* — Two to six or eight grains, three or four times a day, in pill.

23. OIL OF AMBER. Succinum. The Baltic.
Dose. — Five to fifteen drops.

24. COBWEB. Tela araneorum.
(See p. 109.)

25. DIPPEL'S ANIMAL OIL. Oleum cornu cervi.
In hysteria, epilepsy. *Dose.* — "A few drops."

26. **RUE.** *Ruta graveolens.* Europe. The leaves.

In hysteria. *Dose.* — Of powder, grs. xij to 3ss. Also infusion, oil, etc. (See *Uterine Agents*, No. 13.)

27. **OIL OF TURPENTINE.** *Oleum terebinthinæ.*

In Dr. Hall's *centripetal* or *eccentric* epilepsy and convulsions. Also, hysteria, chorea, tetanus.

ORDER III.

CEREBRO-SPINO-EXCITANTS. TETANICS,

In the order of their value.

Remedies of this class have the effect of developing the nervous power in such violence as to produce convulsions in the muscles of animal life. They are therefore advantageously employed in cases of paralysis.

NUX VOMICA. *Strychnos nux vomica.* Coromandel, Ceylon, etc. The seeds.

The difference in the vital constitution of animals, and their difference in this respect from man, are emphatically shown by the inertness upon some animals of substances which are exceedingly poisonous to others and to man, a fact from which important physiological and practical conclusions may be drawn. The *nux vomica* is an exception to the

foregoing general fact, since it is poisonous to all classes of animals; but, whilst a few grains will kill a dog, several ounces are necessary to effect the death of a horse. (See *Med. and Phys. Com.*, vol i., pp. 568-575.)

Dr. M. Hall notices the remarkable fact that, in paralysis, the principal demonstration of *nux vomica* is made upon the paralyzed parts, and he imputes the peculiarity to an exalted irritability of the paralyzed limb. This is undoubtedly true, and beautifully illustrates the distinction between *irritability* and *sensibility*, and shows that the nervous power develops motion by acting upon organic irritability. The action of *nux vomica* after decollation shows, with a thousand other facts, that the nervous power is developed by remedial and morbid agents at least as well in the spinal cord as in the brain.

The proximates, *strychnia* and *brucia*, are alkaline substances, derived from the *Strychnos nux vomica*, *S. ignatia*, *S. colubrina*, and *S. tieuté*. Their action is the same, though *brucia* is supposed to possess only one twelfth to one twenty-fourth part of pure *strychnia*. The violent nature, therefore, of these substances, should give to *brucia* a preference.

These remedies are mostly useful in paralysis, but have been employed in hysteria, neuralgia, chorea, syphilitic pains, and even in dysentery, diarrhoea, and bronchitis. Their employment should be restricted to paralysis, unless other safer and more

efficient means shall have failed in the other affections.

All the preparations may be repeated two or three times a day.

1. BRUCIA. Brucina.

℞. Brucin. grs. xvj, alcohol. ℥j. M. *Dose*.—Ten to thirty drops, gradually increased to 3iiss. Or, in pills of gr. $\frac{1}{8}$, gradually increased to five grains.

2. STRYCHNIA. Strychnina.

℞. Strychnin. puriss. grs. ij, alcohol. ℥ss. M. *Dose*.—10 drops, gradually increased to 3j, or 3ij, if necessary, or the strength increased. May be also given in pills, beginning with one-twentieth of a grain, and gradually increased to half a grain or a grain.

3. ACETATE OF STRYCHNIA.

℞. Strychnin. grs. ij, acid. acetic. 3ij, aquæ destillat. 3ij. M. ℞. Strychnin. acetatis, grs. ij, alcohol. ℥ss. M. Or pills, *Dose*.—The same as 2.

4. SULPHATE OF STRYCHNIA.

℞. Strychnin. sulph. grs. ij, aquæ destillat. ℥ss. M. Or pills. *Dose*.—The same as 2. Easily decomposed.

5. HYDROCHLORATE OF STRYCHNIA.

℞. Same as 4.

6. NITRATE OF STRYCHNIA.

R. Strychninæ nitratis, grs. ij, aquæ destillat. ʒss.

M. Or pills. *Dose.* — The same as 2.

7. IODIDE OF STRYCHNIA.

R. Strychninæ iodid. gr. ij, micæ panis, ʒij. M. divid. in pil. xx. *Dose.* — One, twice or thrice a day, very gradually raising the dose to a quarter or half a grain, in old cases of extensive paralysis.

8. TINCTURE OF NUX VOMICA. Tinctura nucis vomicæ.

Dose. — 8 to 15 drops, gradually increased to 30 or more.

9. EXTRACT OF NUX VOMICA. Extractum nucis vomicæ.

Dose. — gr. $\frac{1}{2}$, gradually increased to 2 or 3 grains.

10. BEAN OF ST. IGNATIUS. Strychnos Ignatia. Phillipine Islands. The bean.

Affords a large proportion of strychnia, and some brucia. Superseded by the foregoing. Also, strychnos tiuté, its aqueous cortical extract affording the poison *upas tiuté*. Effects the same as from nux vomica.

11. LEOPARD'S BANE. Arnica montana. Europe, Siberia, Canada. The flowers and root.

"Cathartic, emetic, diuretic, diaphoretic, and emmenagogue." Employed in "dysentery, diarrhœa, intermittent fever, rheumatism, gout, dropsy, chlorosis, and various other complaints;" but is only appropriate to paralysis and amaurosis. Dose of powder, grs. v to x. \mathcal{R} . Arn. mont. \mathfrak{z} ss, aquæ, \mathfrak{z} xvi. \mathcal{M} . Macerate. Strain. Dose. — \mathfrak{z} ss to \mathfrak{z} j. Also; \mathcal{R} . Olei ætherei florum arnicæ gut. iv, spirit. æther. nitros. \mathfrak{z} ss. \mathcal{M} . Dose. — 5 to 20 drops, 4 or 5 times a day.

12. POISON OAK. *Rhus toxicodendron*. 13. SWAMP SUMACH. *Rhus vernix*. 14. DWARF SUMACH. *Rhus pumilum*.

Employed in paralysis. Very poisonous when applied to the skin, but must probably be taken in considerable quantities. Dose undetermined.

ORDER IV.

MOTO-PARALYSANTS.

1. POISON HEMLOCK. *Conium maculatum*.
(See p. 87, No. 19.)

ORDER V.

SENSO-PARALYSANTS.

1. ACONITE. *Aconitum napellus*.

In neuralgic and rheumatic affections. The tincture is as useful as the expensive aconitina. *Dose.* — Of tincture, 5 drops, three times a day, cautiously employed. (See p. 150, No. 1.)

2. DELPHINIA. Delphinium staphysagria.
In neuralgia and rheumatism. (See p. 101.)

3. PREPARED CARBONATE OF IRON. Ferri sesquioxidum.
(See p. 182, No. 6.)

ORDER VI.

CEREBRO-SPINO-DEPRESSANTS,

In the order of their value.

1. HYDROCYANIC ACID. Acidum hydrocyanicum.
(See p. 122, No. 4.)

2. CYANURET OF POTASSIUM. Potassii cyanidum.
(See p. 102, No. 11.)

3. CYANIDE OF ZINC. Zinci cyanidum.
(See p. 122, No. 6.)

4. CHERRY LAUREL. Cerasus lauro-cerasus.
(See p. 125, No. 14.)

5. BITTER ALMOND. *Amygdalus communis*.

(See p. 125, No. 15.)

6. TARTARIZED ANTIMONY. *Potassæ antimonio-tartras*.

(See p. 54, No. 2.)

7. TOBACCO. *Nicotiana tabacum*.

(See p. 61, No. 24.)

8. FOXGLOVE. *Digitalis purpurea*.

(See p. 123, No. 9.)

ORDER VII.

DOUBTFUL NERVOUS AGENTS.

Agents whose mode of operation is remarkably peculiar.

BELLADONNA. *Atropa belladonna*.

(See p. 150, No. 4.)

STRAMONIUM. *Datura stramonium*.

(See p. 202, No. 21.)

CLASS V. — ASTRINGENTS, INTERNAL,

In the order of their value.

Perhaps enough was said in the general remarks, at page 16, of the *modus operandi* of astringents.

especially when applied internally. That they should have been so long and universally supposed to operate by physically astringing the vessels, whether in hemorrhage or diarrhœa, is an evidence of the great disposition of the human mind to seek for the tangible objects of sense in the phenomena of living beings, and to apply to their unique organization and powers the laws of inorganic matter. I believe, however, that it will be ultimately conceded that astringents operate, like all other positive remedial agents, by modifying the living properties and actions of the discerning vessels, by which the redundant secretions of blood, or other fluids, are arrested. We shall then have placed the operation of this group of agents upon the same physiological ground as that of all others.

1. ACETATE OF LEAD. *Plumbi acetat.*

Most useful as an astringent in the following affections, and in their order. Uterine hemorrhage; hæmatamesis; hæmoptysis; chronic diarrhœa, and dysentery; to lessen expectoration, and night sweats, and diarrhœa, of phthisis; salivation from mercury.

It is mainly useful in the hæmorrhagic affections, for which it is invaluable, especially uterine.

Dose.— One grain, with one half or one grain of ipecacuanha, and small proportions of morphine or opium, once in two to six or eight hours.

2. SULPHATE OF COPPER. *Cupri sulphat.*

℞. Cupri sulph. grs. iij, aquæ, ℥ ij, acid. sulph. gut. xx. *M.* *Dose.*—Fifteen to forty drops, once an hour to six hours, for pulmonary, uterine, or other hemorrhages. ℞. C. s. grs. vj, opii, grs. iij aut vj, micæ panis, ʒj. *M.* Divid. in pil. xij. *Dose.*—One pill, twice or thrice a day, in chronic diarrhœa and dysentery. Also in profuse secretions from the bronchial and urino-genital mucous tissues. (See p. 58, No. 9.)

3. ALUM. Potassæ alumino-sulphas. Alumen.

This remedy is principally useful in restraining uterine hemorrhage after parturition, for which it is invaluable. *Dose.*—℥j to ʒij, repeated in fifteen or thirty minutes, with ergot. (See p. 160, No. 4.) Also useful in hæmoptysis, hæmatamesis, hæmaturia, etc. *Dose.*—According to urgency of symptoms. Colliquative sweating, gleet, chronic diarrhœa, leucorrhœa, diabetes. *Dose.*—grs. x to xx. The best remedy for lead colic. *Dose.*—℥j to ʒij, once in three or four hours.

4. CATECHU. Acacia catechu. East Indies Extract of the wood. Several varieties of the extract.

Composition.—Tannic acid, tannin, catechuic acid, etc.

In hemorrhages, especially intestinal, immoderate flow of menses, chronic diarrhœa and dysentery.

Also in leucorrhœa, and gleet. *Dose.* — grs. x to ʒj, in bolus. Infusion. *℞.* Catechu, ʒiiss, boiling water, ʒviij. *M.* Macerate two hours. Strain. *Dose.* — ʒj to ʒss, three or four times a day.

(a.) *Tinctura catechu.* *Dose.* — ʒi to ʒij.

(b.) *Electuarium catechu compositum.* *Dose.* — ʒj to ʒij.

5. KINO. *Pterocarpus erinaceus.* Gambia, Senegal. Concrete exudation.

Like catechu. In obstinate diarrhœa, and often in combination with chalk and opium. Also in leucorrhœa, hæmorrhages, especially intestinal. *Dose.* — Of powder, grs. x to ʒss.

(a.) *Tinctura kino.* *Dose.* — ʒj to ʒij.

(b.) *Pulvis kino compositus.* *Dose.* — grs. v to ʒj.

6. GAMBIR-CATECHU, *UNCARIA GAMBIR.* East Indian Archipelago. Sixty thousand Gambir plantations on the island of Bintang. Extract from the leaves. Sold as catechu.

Uses and doses the same. (See 4.)

7. CROWSBILL GERANIUM. *Geranium maculatum.* United States. The root.

In the same cases as catechu and kino. *Dose.* — Of powder, grs. xx to ʒij. Decoction, *℞.* geran.

℥ij, boiling water, ℥iss. Boil to ℥j. Strain.
Dose. — ʒss to ʒiss.

8. RHUBARB. *Rheum palmatum.*

Has the remarkable property of proving astringent, by its alterative action, after exerting its cathartic effect in diarrhœa. In all cases of this nature, at all ages, when unattended by inflammatory action of the intestines, it is a most valuable astringent cathartic, and especially so in what are denominated attacks of indigestion. It is then commonly associated with magnesia and mint water, in doses varying from five to twenty-five grains. At other times, in analogous affections, in doses of one to five grains. Also the tincture and extract. (See p. 37.)

9. MARSH-ROSEMARY. *Statice caroliniana.*
 United States. The root.

In same cases as 4, and same doses as 7. Three or four times a day.

10. TORMENTIL. *Potentilla tormentilla.* Europe. The root.

In same cases as 4. *Dose.* — Of powder, ʒss to ʒj, three or four times a day. Also, decoction and dose like 7.

11. AMERICAN SANICLE. Alum root. *Heuchera americana*. The root.

In same cases and doses as 10.

12. TINCTURE OF MURIATE OF IRON. *Tinctura ferri sesqui-chloridi*.

Valuable in hæmatemesis. Employed, also, in hemorrhages from uterus, kidneys, and bladder. Also, in gleet, leucorrhœa, and chronic diarrhœa.

Dose. — 12 to 30 drops, repeated often, if necessary,

13. SOLUTION OF THE NITRATE OF IRON. *Liquor ferri sesquinitratis*.

In the same cases as 12. *Dose*, the same.

14. IPECACUANHA. *Cephælis ipecacuanha*.

This is another remedy which illustrates the principle upon which astringents operate, and points out the absurdity of the physical *rationale*, since ipecacuanha possesses nothing of what is denominated *astringency*. It is a valuable agent in uterine hemorrhage especially; nor is its influence at all owing to any nauseating effect, since it is administered in doses of one grain only. Consider, too, the manner in which it increases the anti-hemorrhagic effect of the acetate of lead, and that the sulphate of copper probably does not restrain hemorrhage till it produces nausea, and you will then

see yet farther that the physical doctrines of life and disease must be abandoned as unworthy the present age.

It will be borne in mind that, in arranging these substances, their degree of "*astringency*" is not taken as the basis; but their relative remedial virtues. (See p. 16.)

15. DOCK. MOUNTAIN RHEUBARE. *Rumex crispus*, *R. obtusifolius*, and *R. alpinus*.

Virtues analogous, but inferior to those of the rheum, and employed in the same cases. Decoction and dose like 7. (See p. 47.)

16. WATER AVENS. *Geum rivale*. United States, Europe. The root.

Employed in same cases as 4. *Dose*.—Of powder, 3ss to 3j.

17. RHEATANY. *Krameria triandra*. Peru. The root and extract.

In same cases as 4. *Dose*.—Of powder, grs. xv to 3ss. *Dose*.—Of extract, grs. x to ʒj. *Dose*.—Of compound tincture, ʒi to 3ij. Also, infusion as 7.

18. EUROPEAN AVENS. HERB BENNET. *Geum urbanum*. Europe. The root.

Employed in same cases as 4. *Dose*.—3ss to 3j, in powder, or decoction, 3 or 4 times a day.

19. **HARDHACK.** *Spiræa tomentosa*.

Tonic and astringent. In diarrhoea, and analogous affections, unattended by inflammation. (See p. 188, No. 41, for dose, etc.)

20. **BISTORT.** *Polygonum bistorta*. Europe. The root.

Tonic and astringent. In hemorrhages, especially intestinal; and as 19. *Dose.* — Of powder, ℥j to 3ss. Or, decoction and dose like 7.

21. **BLACKBERRY ROOT.** *Rubus villosus*. 21. **DEWBERRY.** *Rubus trivialis*. The United States. Bark of root.

Tonic and actively astringent. In same cases as 19. *Dose.* — Of powder, ℥j to 3ss. Decoction, and dose same as 7. In popular use.

22. **COMMON SALT.** *Sodii chloridum*.

In hæmoptysis. *Dose.* — ʒss, repeated. (See p. 44, No. 25.)

23. **SULPHATE OF ZINC.** *Zinci sulphas*.

In the same cases as stated No. 4. *Dose.* — gr. j to v. ℞. Z. s, 2; ℞. Z. s, 14; for hemorrhages.

24. **SWEET SCENTED WATER LILY.** *Nymphæa odorata*. United States. The root. In chronic diarrhoea, leucorrhœa; etc.

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25. COMMON AGRIMONY. *Agrimonia eupatoria*.
The United States, Asia, Europe. Herb and root.
In same cases as 4. *Dose*. — Of powder, ʒj to ʒij, or in decoction.

26. WHITE OAK BARK. *Quercus alba*. BRITISH
OAK. *Quercus robur*.
In same cases as 4. *Dose*. — Of powdered bark,
ʒss to ʒj, or in decoction.

27. LOGWOOD. *Hæmatoxylon campechianum*.
The wood. Campeachy.
In same cases as 4. Decoction and dose same
as 7.

28. ARMENIAN BOLE. PURE ALUMINA. *Argilla*
pura.
Chemical, and forms astringent salts with acids in
the primæ viæ. In dysentery, diarrhœa, etc.

29. NUTGALL. *Quercus infectoria*.
Of doubtful utility internally, except in cases of
poisoning by the vegetable alkalies, or such vegeta-
ble substances as afford them. *Dose*. — Of powder,
grs. x to ʒj. Infusion. ℞. Nutgall, ʒss, boiling
water, ʒvj. M. Strain: *Dose*. — ʒss to ʒiv. (See
p. 159, No. 1.)

30. LADIES' MANTLE. *Alchemilla vulgaris*. Eu-
rope. The herb and root.

Diarrhœa, etc. Formerly prized by those alchemists who were in pursuit of the "*Elixir of Life*." Its end is much like their "*philosopher's stone*."
Dose. — Of powder, 3 ss to 3 j.

31. CINQUEFOIL. *Potentilla reptans*. Europe.
 The root.
 Much like 30.

32. PURGING AGARIC. *Boletus loricis*. Europe.
 A fungus of the larch.
 In the sweats of phthisis. *Dose*. — grs. ij to grs. vj, twice or thrice a day, gradually increased to 3 j, when it sometimes purges.

33. LOOSESTRIFE. PURPLE WILLOW HERB. *Lithrum salicaria*. United States, Europe. The herb.
 In same cases as 24. *Dose*. — Of powder, 3 ss to 3 j. Decoction and dose, same as 7.

34. POMEGRANATE. *Punica granatum*.

* * * ERGOT. *Secale cornutum*.

If uterine hemorrhage. Said to be useful in hemorrhages from all other organs. Destitute of what is denominated astringency. Introduced here to illustrate the principle upon which astringents operate, should it possess its imputed virtue. (See No. 14 and pp. 16, 161, No. 11.)

CLASS VI.—UTERINE AGENTS,

In the order of their value.

This group embraces only such agents as exert special influences upon the uterus in its morbid or unusual states.

1. **ERGOT. SPURRED RYE.** *Secale cornutum*. Obtained from the glumes of the *secale cereale*. Caucasian-Caspian Desert. Cultivated in all countries.

Authors not agreed as to the cause or nature of spurred rye; though it is probably a disease of the grain occasioned by a parasitical fungus. For a long time a popular means in Europe of accelerating parturition. Common in Germany, Italy, and France, a century and half ago. Poisonous to some animals, as flies, leeches, dogs, cats, but scarcely so, or not at all, to others. "It requires ounces to destroy rabbits and pigeons." "Twenty sheep ate nine pounds daily for four weeks without any ill effects. Thirty cows took together twenty-seven pounds daily, for three months, with impunity." — *Pereira*. These differences in the effects of substances on different animals are very common. (See p. 15.)

The remarkable peculiarity of ergot consists in its action upon the gravid uterus, especially when nature is employed in the process of parturition. It

then acts energetically in increasing the parturient efforts; and this effect appears to be common to all animals, so far as tried. It is less ascertained how far it is capable of affecting the uterus in its unimpregnated state, or to what extent, if any, it is capable of exciting abortion, or of instituting the process of labor. There is much reason for believing, however, that the uterine influence of ergot is greatly limited to that condition of the womb in which the process of labor, or of abortion, has begun spontaneously, or from other causes.

When natural labor has commenced, the action of ergot upon the uterus is manifested in ten or twenty minutes, in an increase and frequency of the pains, and in their prolongation,—this influence often reaching even to the expulsion of the placenta. But here it commonly ceases, which shows the probability that ergot is not disposed to act upon the uterus as an excitant to its muscular action unless nature is instituting the same process. Nevertheless, it is not improbable that, after the expulsion of the placenta, contractions may be reproduced, especially if the remedy have not been previously exhibited, and the uterus remain imperfectly contracted. In event of unusual hemorrhage, therefore, under these circumstances, ergot should be one of our means for arresting it. (*See alum and ice, Index.*)

It is also recommended with great confidence, by some, in hemorrhage of the unimpregnated uterus,

and denied by others, as by Prescott and Villeneuve. Pereira thinks that "the statement of Prescott and Villeneuve is incorrect;" but is it so in relation to their experience? Pereira also states that several individuals have "published a considerable number of cases in *proof* of the power of ergot of checking hemorrhage from *other* organs than the uterus;" but he "thinks further evidencé is required to prove the anti-hemorrhagic powers of ergot." In this opinion I agree; nor should we forget the history of digitalis, and many other remedies of renown which have shared a similar fate.

Ergot should never be administered till a full dilatation of the os uteri has taken place. An earlier exhibition endangers the uterus, the perinæum, and the life of the child, as well as that of the mother. Nor should it ever be exhibited where unaided nature may go through with the process of labor in her ordinary way. Economy of time is no apology for an unnecessary interference; and this is one of the occasions in which it were well that the objectors to bloodletting in inflammations and fevers, would extend their protest to the abuse of ergot. Pereira says, that "ergot has been charged with causing the death of the child, but the charge has been repelled," etc. Our eminent Dr. Hosack remarks that, "as it regards the child, ergot may with almost equal truth be denominated the *pulvis ad mortem*, as the *pulvis ad partum*, where nature is alone unequal to the

task," etc. This is quoted by Pereira; but it was manifestly intended by Dr. Hosack only as a strong expression of an honest conviction, that ergot is not unfrequently fatal to the child, and so far my observation enables me to concur. Nevertheless, ergot is an invaluable agent, rarely failing of its specific effects, and may, therefore, be often instrumental in saving mother and child.

The honor of introducing this remarkable substance into the materia medica is due to our distinguished fellow citizen, John Stearns, M.D., in 1807.

Ergot has been also employed to effect the expulsion of uterine hydatids, polypi, etc., and in leucorrhæa. It is not emmenagogue. *Dose*:—Of fresh powder, ℥j, at intervals of half an hour, for 2 or 3 doses. *Infusion* best. ℞. Bruised ergot, 3j, boiling water, 3 iv. Macerate half an hour. Strain. *Dose*.—One-third, or one-half, repeated. *Decoction*, same, boil for 10 minutes. Strain. *Tincture*, dose, 3j to 3ij.

2. CANTHARIDES. *Cantharis vesicatoria*.

As an emmenagogue. *Dose*.—Of powder, 1 or 2 grains, in pill. The tincture should always be preferred. *Dose*.—15 drops, morning and evening, increasing one drop at each dose, till slight strangury is produced. It rarely happens that menstruation is effected till strangury is produced, when the medi-

cine should be suspended. The end may be often promoted by leeches to the thighs or perinæum, or which are often alone sufficient. Also, by exercise on horseback, proper diet, tonics, or their opposite. So, of other emmenagogues. Cantharides is capable of producing abortion. (See *Index*.)

3. GUAIACUM. *Guaiacum officinale*.

An emmenagogue, in the absence of inflammation, plethora, etc. Dose of the tinctura guaiaci composita, 3ss to 3ij, in mucilage, or milk.

The late exhibition of guaiacum in England, as a remedy for inflamed tonsils, is worthy of notice, as illustrating still farther the peculiar virtues of this substance. Nevertheless, we must not forget that gargles of cayenne pepper have been urged in the excessively irritable erythymatous inflammation of the fauces in scarlatina, and that it is a common practice in England to treat erysipelas with bark and wine.

4. OIL OF SAVIN, OIL OF JUNIPER. *Juniperus sabina*. The leaves.

A powerful uterine stimulant, and efficient emmenagogue. Not admissible when any inflammation or irritable state of any important organ exists. Also, in chronic rheumatism and dropsy, rarely.

Dose. — Of the oil, 2 to 6 drops, in mucilage, as an emmenagogue. (See *Index*.)

5. PREPARATIONS OF IRON IN THEIR ORDER OF ARRANGEMENT.

(See *Tonics*, for doses, etc. See 2.)

6. ALOES. *Aloe socotrina*.

An emmenagogue, especially if the uterine affection be complicated with hepatic derangement. Given in alternative or cathartic doses. (See pp. 35, 72.) May be often usefully combined with 5 and 7. (See also, 2.)

7. MYRRH. *Balsamadendron myrrha*.

Emmenagogue. (See p. 184, No. 15, for dose, etc. See 5, 2.)

8. MERCURIAL PREPARATIONS, WITH OR WITHOUT IODINE.

In amenorrhæa, and other uterine affections. (See *Alteratives*, p. 94. Also, 2.)

9. IODINE.

In amenorrhæa. Most useful in scrofulous habits, where its effects are very beneficial. (See p. 77, for dose, etc.)

10. BROMIDE OF POTASSIUM.

Emmenagogue. (See p. 81, for dose, etc.)

11. JALAP. Ipomæa purgans.

Emmenagogue. (See p. 33, for dose, etc.)

12. RED CEDAR: Juniperus virginiana.

Analogous, but quite inferior, to No. 4. In the same diseases.

13. RUE. *Ruta graveolens.* Europe. The leaves and unripe fruit.

An ancient favorite. Irritating to the skin. Stimulant, narcotic, and emmenagogue. *Dose.* — Of powder, \mathfrak{v} j to \mathfrak{z} ss. An infusion of the fresh herb is best. *R.* Rue, \mathfrak{z} j, to water, \mathfrak{z} xvj. *Dose.* — \mathfrak{z} j to \mathfrak{z} ij. Dose of oleum rutæ, 2 to 6 drops. Dose of syrupus rutæ, \mathfrak{z} j to \mathfrak{z} ij, to children for flatulent colic. Also, confectio rutæ. *Dose.* — \mathfrak{v} j to \mathfrak{z} ij. (See *Index*.)

14. BORAX. Sodæ biboras.

To promote uterine contractions. Employed in connection with ergot. *Dose.* — \mathfrak{z} ss to \mathfrak{z} j.

15. PENNYROYAL. Mentha pulegium.

A popular remedy in amenorrhœa, hysteria, whooping-cough, etc.

16. BLACK HELLEBORE. *Helleborus niger*.

An emmenagogue. (See p. 46, No. 31, for dose, etc.)

CLASS VII.—GENITO-URINARY
AGENTS,

In the order of their value.

The agents embraced in this group possess specific relations to some one or more parts of the urinary organs.

1. BALSAM OF COPAIVA. *Copaifera multijuga* yields the principal quantity, which comes from Para and Maranhão, Brazil, Carthage, etc. The fluid resinous exudation.

Affects particularly the mucous tissue of the urethra; a phenomenon analogous to the irritation of the neck of the bladder by cantharides, and involving a beautiful illustration of remote sympathy. Moderately stimulant to the pulmonary and gastrointestinal mucous membranes. Deranges the stomach when long continued, or in large doses, occasioning vomiting, purging, griping, full and excited pulse, hot skin, etc. Especially adapted to gonorrhœa, to which its use is now limited, and more successful with males than females. Should not be

exhibited till the activity of the inflammation is first overcome by more direct antiphlogistics, as low diet, cathartics, rest, leeching, or general blood-letting. *Dose.* — 15 drops to 3j, or more, on sugar or water, or with mucilage, or in pills by combining it with magnesia. Also, *gelatinous capsules*, each containing 10 grains of the balsam; convenient.

(a.) *Oleum copaibæ.* This is at least as useful as the balsam, and is preferred by many. *Dose.* — 10 to 20 drops, gradually increased to 3j or more, on sugar.

Useful formulæ. *R.* Copaib. bals. 3j, *aut* ol. copaib. 3ss, liquor. potass. 3ij, mucilag. 3iij, aquæ 3iij, tinct. opii camphorat. 3ss, spirit. æther. nitros. 3ss. *M.* *Dose.* — 3ss, twice or thrice a day. *R.* B. c. 2^a class 10, 3. ft. pil. *R.* 1^a 2^a class 10, 3. ft. pil. *R.* Bals. cop. spirit. æther. nitros. $\bar{a} \bar{a}$ 3ss, acid. sulph. 3ss, mucilag. 3iij, aquæ 3iv. *M.* *Dose.* — 3ss to 3j. *R.* Bals. cop. 3iij, pulv. cubebæ, 3vj, pulv. opii grs. iv, magnesiæ, q. s. *M.* Divide into 12 parts; 2 to 4 a day.

2. CUBEBS. *Piper cubeba.* Java, Prince of Wales' Island. The dried unripe fruit.

An acrid spice, analogous to black pepper, but, like copaiva, possessing specific relations to the urinary organs, and especially the mucous tissue of the urethra. Adapted to gonorrhœa. May be exhibited early, if the inflammation be mild; otherwise,

treat as stated in No. 1. Should be soon discontinued. *Dose.* — 3j to 3iij, three or four times a day.

(a.) *Oleum cubebæ.* This is preferable to the powder. *Dose.* — Ten drops, gradually increased as far as the stomach will admit, three or four times a day. Given in the same form as copaiva. (See *Formula* 1.)

(b.) *Tinctura cubebæ.* Useful. *Dose.* — 3j to 3ij.

3. CANTHARIDES. *Cantharis vesicatoria.*

In paralysis of the bladder, whether retentive or incontinent, especially in the incontinence of children. Also, in obstinate gonorrhœa. (See p. 115, for dose, etc.)

4. BUCHU. *Barosma crenata.* Cape of Good Hope. The leaves.

Tonic, stimulant, diuretic, diaphoretic. In chronic inflammation of the mucous tissue of the bladder, where the discharge of mucus is large, leucorrhœa, incontinence of urine, gleet, lithiasis, prostatic affections, and dyspepsy. *Dose.* — Of powder, ʒj to 3ss, or infusion.

(a.) *Tinctura buchu.* *Dose.* — 3i to ʒss.

5. CANADA BALSAM. *Abies balsamea.* Canada. United States. The balsam. Several inferior species.

In gonorrhœa, leucorrhœa, chronic cystorrhœa, gleet. *Dose.* — ʒj to 3j, in emulsion.

6. OIL OF TURPENTINE. *Oleum terebinthinæ*. By distillation of the American or white turpentine of the *pinus palustris*, and *P. tæda*. In same cases as 5, and suppression of urine. *Dose*. — Ten drops to 3j, in mint water.

This agent has been much abused in chronic diarrhœa and dysentery, in hemorrhages, and especially in puerperal fever, and by those who declaim against bloodletting in the last affection.

7. BEARBERRY. *Arctostaphylos uva-ursi*, or, *arbutus uva-ursi*. Europe, Asia, and America. The leaves.

In catarrhus vesicæ, lessening irritation; in the ardor urinæ of gonorrhœa, and dysury from various causes. So far its reputation is established. Also employed in nephritis, leucorrhœa. *Dose*. — Of powder, ʒj to ʒij. Also decoction.

℞. The leaves bruised, ℥ss, water, ℥xvj. M. Boil ten minutes. *Dose*. — ʒi to ʒjj, every hour or two. *Ext.* hyosciamus usefully combined,

8. PAREIRA BRAVA, OR VELVET LEAF. *Cissampelos pareira*. West Indies. Spanish Main. The root.

In gonorrhœa, leucorrhœa, and chronic inflammation of the bladder, attended by discharges of ropy mucous. *Dose*. — Of powder, ʒss to 3j.

℞. Pareira, ʒj, boiling water, ℔j. M. Macerate;

strain. *Dose.* — \mathfrak{z} i to \mathfrak{z} ij, three or four times daily. Any of the narcotics may be added.

9. CAMPHOR. *Laurus camphora*. In strangury and dysury, induced by cantharides, etc.; nymphomania, satyriasis, onanism, incontinence of urine in children. I have employed it with the best success in the nocturnal emissions brought on by onanism, in doses of 15 to 20 grains, twice a day. Mean dose 5 to 10 grains.

10. TINCTURE OF THE MURIATE OF IRON. *Tinctura ferri sesquichloridi*.

In many affections of the urinary organs, as retention of urine from spasm, (dose, ten drops every ten to twenty minutes,) gleet, leucorrhœa, hemorrhage from kidneys, bladder, and uterus. *Dose.* — Ten to thirty drops, gradually increased to \mathfrak{z} j or \mathfrak{z} ij.

11. PIPSISSEWA. *Chimaphilla umbellata*.

In the same affections as No. 7. (See p. 86, No. 25, for dose, etc.).

12. CINCHONA. *Cinchona officinalis*.

Adapted to old chronic inflammations of the mucous tissues, and to that irritable state of the urinary mucous membrane and genital organs which is attended by nocturnal emissions. The dose must be large; of the powdered bark, \mathfrak{z} ss, every morning for a short time. (See 9.)

CLASS VIII.—ANTHELMINTICS,

In the order of their value.

1. WORMSEED, JERUSALEM OAK. *Chenopodium anthelminticum*. The *C. botrys*, and *C. ambrosioides*, also possess anthelmintic virtues.

In cases of large round worm. *Dose*.—Of powder, for a child of two to three years, ʒi to ʒij. The oil is best.

(a.) *Oleum chenopodii*. *Dose*, for same, three to eight drops, in mucilage.

The powder or oil to be given morning and evening, fasting, for four or five days; followed by calomel, castor oil, or jalap.

The leaves of the fresh plant are also employed. *Dose*.—Of juice, ʒss. Also decoction.

2. PINK ROOT. *Spigelia marilandica*. Southern States. The root.

In cases of large round worm. Perhaps more certain than wormseed, but more likely to disturb the system.

Dose.—Of powder, for a child two or three years of age, eight to sixteen grains; for an adult, ʒj to ʒij. An infusion is best. *R*. *Spigelia* ʒss, boiling water, ʒxvj. *M*. Macerate two hours; strain. *Doses*.—ʒss to ʒj, and ʒiv to ʒviij.

Exhibited, etc., as No. 1, or may be combined with

an infusion of jalap or senna. Purges in excessive doses, and proves rather an acrid narcotic, deranging the health in such cases.

3. OIL OF TURPENTINE. *Oleum terebinthinæ.*

Employed for tape worm, especially. *Dose.*— $\frac{3}{4}$ ss to $\frac{3}{4}$ ij, in mucilage or mint water. Also enema for ascarides. (See p. 165, No. 7.)

4. COWHAGE, COWITCH. *Dolichos pruriens.* East and West Indies. The bristles of the pods.

In cases of large round worm, especially. Mix with molasses to the consistency of thick honey. *Dose.*—For a child two or three years old, a small teaspoonful; for an adult, $\frac{3}{4}$ ss. Administered as No. 1.

5. WORM FLOWER. *Brayera anthelmintica.* Abyssinia. The flowers.

Celebrated in Abyssinia in cases of tape worm; imperfectly tried in Europe. If useful, its mildness will place it before the oil of turpentine. Decoction prepared and given as No. 2.

6. POWDERED TIN. *Pulvis stanni.*

In cases of round worm, and sometimes tape worm. *Dose.*—For a child two or three years old, twenty or thirty grains; for adult, $\frac{3}{4}$ ij, repeated morning and evening for twelve or twenty-four doses, and then followed by calomel, or castor oil, or jalap; or they may be occasionally interposed between the doses of tin.

The following amalgam is preferable : — \mathcal{R} . Melted tin, $3v$, quicksilver, $3ij$, chalk, $3j$. M . Rub in a mortar, while melted, till the whole is perfectly reduced. Levigate when cold to an impalpable powder. *Dose*, etc., the same as of tin.

7. CALOMEL. Hydrargyri chloridum.

In full doses, followed soon by infusion of jalap. In cases of large round worm.

8. JALAP. Ipomæa purgans.

A valuable anthelmintic, especially when associated with calomel, or exhibited after other anthelmintics.

9. MALE SHIELD FERN. Nephrodium filix mas. Europe, Asia, Africa, America. The root.

Employed four hundred years before Christ as an anthelmintic. Used for tape worm. *Dose*. — Of recent powder, $3j$ to $3iij$, fasting, and in six hours after, a dose of calomel, castor oil, or jalap.

(a.) Oleum filicis maris. This is the active principle, and is preferable to the powder. *Dose*. — $3ss$ to $3j$, in mucilage or electuary.

10. POMEGRANATE ROOT. Punica granatum. Northern Africa. The bark of root. Tape worm.

\mathcal{R} . Bark, etc., $3ij$, water, $\mathfrak{b}iss$. Boil to $\mathfrak{b}j$; strain. *Dose*. — $3ij$, every hour, till the whole is drank. If it do not purge, give jalap or castor oil.

11. CASTOR OIL. *Oleum ricini*.

As an enema for ascarides, ℥ss to ℥ij.

11½. BEAD TREE, PRIDE OF CHINA. *Meliâ azedarach*. Syria, Persia, India. Cultivated.

Cathartic and emetic. In cases of round worm, etc.

℞. Bark of root, ℥iv, water, ℥vss. Boil to ℥j. Strain. *Dose*. — For a child, ℥ss to ℥j, once in four hours, till it purges or vomits.

12. TARTARIAN SOUTHERNWOOD. *Artemisia santonica*? The Levant. Broken peduncles, with calyx and flower buds.

Analogous to No. 1. *Dose*. — Of powder, grs. x to 3ss. After the manner of No. 1.

13. BEAR'S FOOT. *Helleborus fœtidus*. Europe. The leaves.

A drastic cathartic and emetic. In cases of round and tape worm. *Dose*. — Of powder, for a child two or three years old, five to ten grains; or decoction, ℥ss to ℥j, made of leaves, 3j, water, ℥viiij; night and morning, till it purges.

14. COMMON SALT. *Sodii chloridum*.

Dose. — 3j, for round worm; strong enema for ascarides.

15. COLCHICUM. *Colchicum autumnale*.

Tape worm. (See p. 97, No. 1½, for dose, etc.)

16. CABBAGE BARK TREE. *Andria inermis*.

Geoffroya inermis. West Indies. The bark.

An active cathartic, vomiting in large doses, and narcotic. Large round worm. *Dose*.—Of powder, ℥j to 3ss. ℞. The bark, ʒj, water, ℥jss. Boil to ℥j; strain. *Dose*. — ʒss to ʒij, for adult. Poisonous in over doses.

17. WORMWOOD. *Artemisia absinthium*. Eu-

rope. Cultivated. The flower-heads and plant.

Tonic and anthelmintic. Large round worm.

Dose.—Of powder, ℥j to 3j, or infusion.

17½. SWEET FERN. *Comptonia asplenifolia*.

United States.

Tonic, astringent, aromatic, and *recently* anthelmintic. Tænia, especially. Infusion. ℞. Leaves, ʒij, boiling water, ℥j. M. Macerate; strain. *Dose*. — ʒj to ʒiv, after the manner of No. 1.

18. OIL OF SAVIN. *Juniperus sabina*.

Worms.

(See p. 228, No 4, for dose, etc)

19. RUE. *Ruta graveolens*. Large round

worm.

(See p. 230, No. 13, for dose.)

20. STAVESACRE. Delphinium Staphysagria.
Large round worm.

Dose. — Of seeds, grs. iij to viij.

21. GARLIC. Allium sativum. Europe. Large round worm. The bulb.

Dose. — Of bulb, 3 ss to 3 ij; of juice, 3 ss.

22. CORSICAN MOSS. Gigartina; or, fucus helminthicorton. Mediterranean Sea. The plant. Large round worm.

Dose. — Of powder, ʒj to 3 ij. A decoction is best. R. Plant, ʒj, water, ℥j. Boil. *Dose.* — 3 j to 3 ij, twice or thrice daily; and cathartics as No. 1.

22½. SABADILLA. Asagræa officinalis. Thread worms, and tape worms.

(See p. 99, No. 4, for dose.)

23. GAMBOGE. Hebradendron cambogioides.

(See p. 40, No. 18, for dose, etc.)

24. BLACK HELLEBORE. Helleborus niger.

(See p. 46, No. 31, for dose, etc.)

25. PETROLEUM. Liquid bitumen. Mineral oil,

rock oil, seneka oil. Arises from the decomposition of coal. United States, Europe, Asia. Tape worm.

Dose. — Of Barbadoes petroleum, ʒj, gradually increased, twice or thrice a day, as with No. 1.

26. GOAT'S RUE. *Galega virginiana*. United States. The root, in decoction.

27. TOBACCO. *Nicotiana tabacum*.
(See p. 61.)

CLASS IX.—ERRHINES,

In the order of their value.

These agents have very little value, excepting in cases of syncope.

1. SPIRITS OF HARTSHORN. *Aqua ammoniæ*.

2. CAMPHORATED ACETIC ACID. *Acidum acetum camphoratum*.
Powerful.

3. TOBACCO. *Nicotiana tabacum*.

4. SNEEZEWORD; FALSE SUNFLOWER. *Helenium autumnale*.

Powerful. Leaves and flowers.

5. BLACK HELLEBORE. *Helleborus niger*. The root.

Powerful.

6. WHITE HELLEBORE. *Veratrum album*. The root.

Powerful.

7. ASARABACCA. *Asarum Europæum*. The root.

Powerful.

8. LILY OF THE VALLEY. *Convallaria majalis*. United States. The root.

Also cathartic and emetic.

9. FLORENTINE IRIS. *Iris florentina*. The root.

Active.

10. YELLOW SUBSULPHATE OF MERCURY. *Hydrargyri subsulphas flavus*.

Active.

11. SEVERAL SPECIES OF EUPHORBIA.

Active.

12. LEOPARD'S BANE. *Arnica montana*. The plant.

Like tobacco.

13. **TONKA BEAN.** *Dipterix odorata*.
Employed to flavor snuff.

14. **BLOODROOT.** *Sanguinaria canadensis*.
Acrid.

15. **SWEET MARJORAN.** *Origanum marjorana*.
The plant.
Mild.

16. **ROSEMARY.** *Rosmarinus officinalis*. The
plant.
Mild.

CLASS X.—CHEMICAL AGENTS,

In the order of their value.

Employed to neutralize offending acids, and other substances, in the alimentary canal, and sometimes to operate subsequently, and partly in virtue of such new combinations as cathartics.

1. **CARBONATE OF SODA.** *Sodæ carbonas*.

2. **BICARBONATE OF SODA.** *Sodæ bicarbonas*.

3. **MAGNESIA.** *Magnesia usta, scz, calcinata*.

4. LIQUOR OF POTASH. *Liquor potassæ.*
5. CARBONATE OF POTASH. *Potassæ carbonas.*
6. BICARBONATE OF POTASH. *Potassæ bicarbonas.*
7. WATER OF AMMONIA. *Liquor ammoniæ.*
8. CARBONATE OF LIME. *Calcis carbonas præparatus.*
9. LIME WATER. *Aquæ calcis.*
10. WOOD CHARCOAL. *Carbo ligni.*
11. SOAP. *Sapo dura.*
12. MOST OF THE COUNTER-AGENTS OF POISONS.
Not often required.
13. TARTARIC ACID. *Acidum tartaricum.*



ERRATA.

Page 45, first line from top, for 3 ij to 3 xij, read 3 ij to 3 vj.

" 67, etc., for bicianide, read *bicyanide*

" 83, ninth line, for grs. xxx, read 3 ij.

" 85, sixth line, insert *also cold infusion*.

" 86, for Chimaphilla, read *Chimaphila*.

" 93, after No. 19, insert 19½, *Guaiacum officinale*.

" 145, after No. 31, insert 31½, *Solution of Chloride of Lime*.

" 155, after No. 16, insert 16½, *Solution of Chloride of Lime*.

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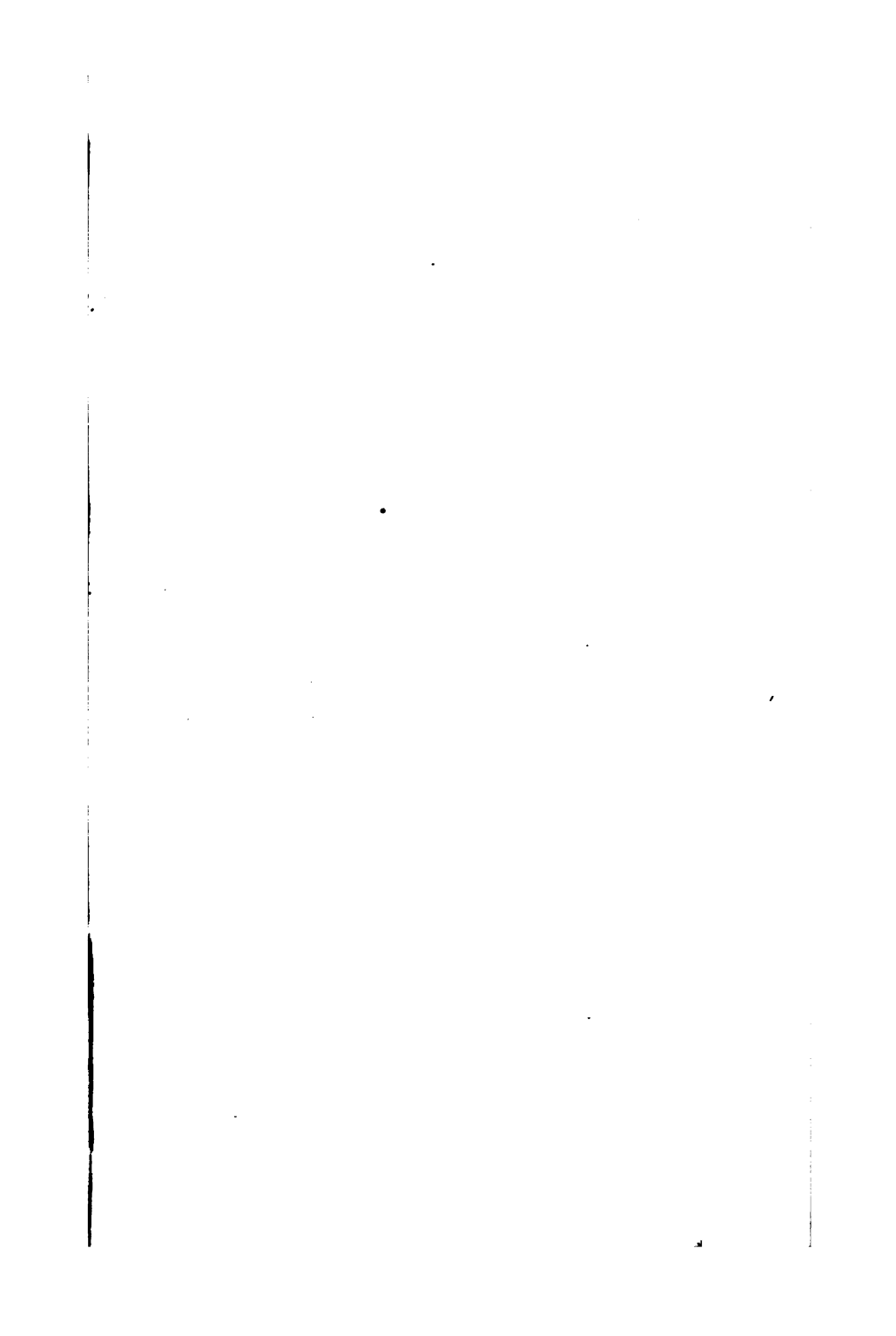
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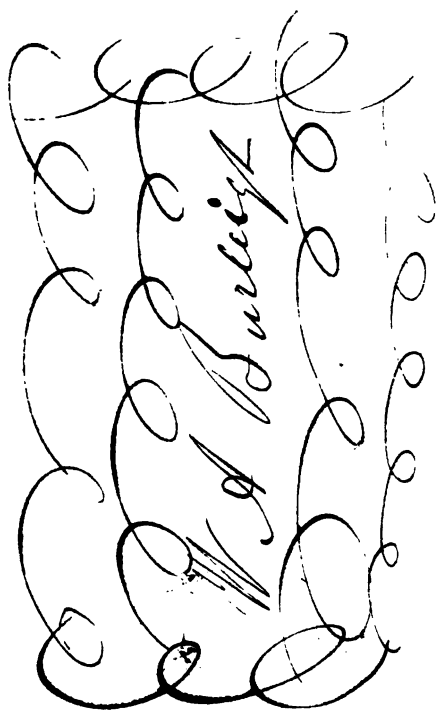
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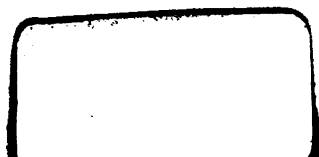




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